Special 22nd Anniversary Issue

Asimov's

SCIENCE FICTION

APRIL 2000

Isaac Asimov Saves the Universe!

Green Fire

Michael Swanwick

Andy Duncan

Eileen Gunn

Pa

Mu

S

Baxter

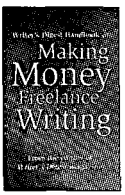
eed

bleford

Arthur C. Clarke Explores the Future!

#BXNDCPY********** 3-DIGIT 190
#CIR2430A098 1#647724
WALT CUIRLE JR
2430 AVON RD
ARDMORE PA 19003-2601
OCT 01
BALA
#0088
DF
CAN.
04
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Discover the Secrets of Fiction Writing that Sells!

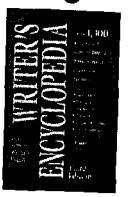


#10501 $19.99

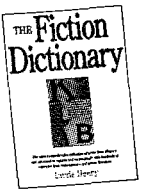
#10506 $16.99 pb

#10426 $15.99

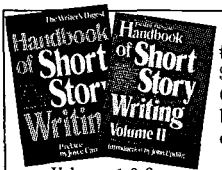
#10507 $16.99 pb



#10464 $22.99



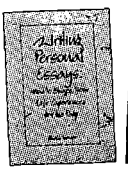
#48008 $18.99



#43057 $27.98 pbs Count both books as one selection.
Volumes 1 & 2

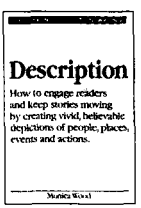
#10390 $18.99

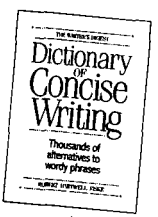
#10025 $19.99



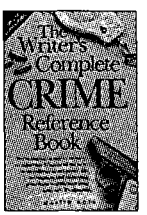
#10438 $17.99

#48003 $17.99

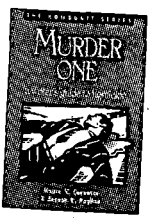

Description
How to engage readers and keep stories moving by creating vivid, believable depictions of people, places, events and actions.
#10451 $15.99



#10482 $19.99



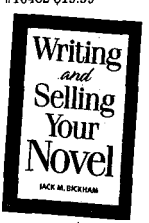
#10371 $19.99



#10498 $16.99 pb

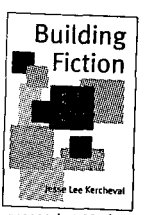
#10500 $21.99

#10463 $17.99

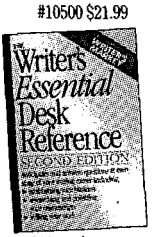


#10509 $17.99

#10393 $18.99



#48028 $16.99 pb



#10485 $24.99

AS A CLUB MEMBER, YOU'LL ENJOY:

- **DISCOUNTS FROM 15-65%** on every book you buy!
- **FREE SHIPPING & HANDLING** on prepaid orders (after this joining offer)!
- **SATISFACTION GUARANTEED 100%!**

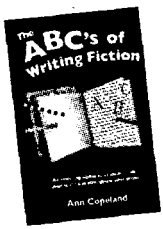
HOW THE CLUB WORKS

You'll receive the *BULLETIN* about fourteen times a year, featuring a Main Selection and 100 or more of the newest and best writing instruction books. If you want the Main Selection, do nothing, and it will be sent automatically. If you want a different book, or want nothing that month, you'll always have at least 10 days to decide and notify the Club by returning your Selection Card. If late delivery of the *BULLETIN* should ever cause you to receive a book you don't want, you may return it at Club expense. As a new member you agree to purchase one book from the *BULLETIN* within the next six months; after that, you may cancel your membership at any time. Each time you buy a book, your membership will be renewed for six months from the purchase date.

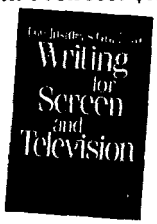
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TAKE 2 BOOKS FREE*

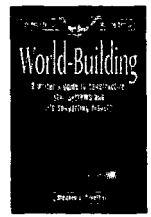
WITH 1 FOR JUST $9.95 WHEN YOU JOIN WRITER'S DIGEST BOOK CLUB!



48017 $18.99



#10483 $17.99



#10470 $16.99

#10395 $16.99

#10512 $27.99 pb

MEMBERSHIP SAVINGS CERTIFICATE

☐ **YES!** I want to join Writer's Digest Book Club. Please sign me up and send me:

My first FREE book #_____	**FREE**
and my second FREE book #_____	**FREE**
with my third book #_____ for only	$ 9.95
*plus shipping and handling	$ 6.53
all for just	$ 16.48

(Payment in U.S. funds must accompany order. Ohio residents add 60¢ tax; Canadians in postal codes A, B or E add $2.47 HST; all other Canadians add $1.15 GST.)

☐ Check enclosed or Charge my ☐ VISA ☐ MasterCard

Acct # | | | | | | | | | | | | | | | | Exp. Date: _____

I have read How The Club Works and agree to buy 1 more book in the next 6 months.

Signature_____
required on all certificates

Name_____

Address_____

City_____ State/Prov _____ ZIP/PC_____

Writer's Digest BOOK CLUB

Limited time offer good for new members in U.S. and Canada only. U.S. funds only. Allow 3-4 weeks for delivery. All applications subject to approval.

P.O. Box 12948 Cincinnati, Ohio 45212-0948

AS70

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Asimov's SCIENCE FICTION

Vol. 24 No. 4 (Whole Number 291)
April 2000

Next Issue on Sale
April 4, 2000

62

100

Cover illustration by Nicholas Jainschigg

www.asimovs.com

NOVELETTES

18 The Prophet Ugly — Robert Reed

44 Regression — Brian Stableford

75 At Lightspeed Slowing — Cory Doctorow

100 Green Fire — Eileen Gunn, Andy Duncan, Pat Murphy, and Michael Swanwick

SHORT STORIES

36 Green Chains — Deborah Wheeler

62 From Mars and Venus — Robert R. Chase

94 The Gravity Mine — Stephen Baxter

DEPARTMENTS

4 Reflections: The Past Is in Front of Us — Robert Silverberg

8 Guest Editorial: The Twenty-First Century: A (Very) Brief History — Arthur C. Clarke

14 On the Net: The Ring of Time — James Patrick Kelly

130 On Books — Norman Spinrad

142 The SF Conventional Calendar — Erwin S. Strauss

Gardner Dozois: Editor — Sheila Williams: Executive Editor

Isaac Asimov: Editorial Director (1977-1992)

Peter Kanter: Publisher — Christine Begley: Associate Publisher

Stories from *Asimov's* have won thirty-five Hugos and twenty-four Nebula Awards, and our editors have received fourteen Hugo Awards for Best Editor. *Asimov's* was also the 1999 recipient of the *Locus* Award for Best Magazine.

Asimov's Science Fiction (USPS 522-310). Published monthly except for a combined October/November double issue by Dell Magazines, a division of Crosstown Publications. One year subscription $39.97 in the United States and U.S. possessions. In all other countries $47.97 (GST included in Canada), payable in advance in U.S. funds. Address for subscription and all other correspondence about them, Box 54033, Boulder, CO 80322-4033. Allow 6 to 8 weeks for change of address. Address for all editorial matters: *Asimov's Science Fiction*, 475 Park Avenue South, New York, N.Y. 10016. *Asimov's Science Fiction* is the registered trademark of Dell Magazines, a division of Crosstown Publications.

© 2000 by Dell Magazines, a division of Crosstown Publications, 6 Prowitt Street, Norwalk, CT 06855. All rights reserved, printed in the U.S.A. Protection secured under the Universal and Pan American Copyright Conventions. Reproduction or use of editorial or pictorial content in any manner without express permission is prohibited. All submissions must include a self-addressed, stamped envelope; the publisher assumes no responsibility for unsolicited manuscripts.

Periodical postage paid at Norwalk, CT and additional mailing offices. Canadian postage paid at Montreal, Quebec, Canada Post International Publications Mail, Product Sales Agreement No. 260657. POSTMASTER, send change of address to *Asimov's Science Fiction*, Box 54625, Boulder, CO 80328-4625. In Canada return to Transcontinental Sub Dept, 525 Louis Pasteur, Boucherville, Quebec, J4B 8E7. ISSN 1065-2698. GST #R123293128

Printed in CANADA

PRINTED WITH SOY INK

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

NEW THIS MONTH FROM **ASPECT**

From the award-winning author of *Reclamation, Fool's War,* and *Playing God*

An alien outpost has been discovered on Venus. Fear escalates into violence. Now, the planet of love is primed for war—unless three incredible women can stop it.

"Shows just how entertaining the 'grand tradition of Heinlein and Asimov' can be in sympathetic hands."

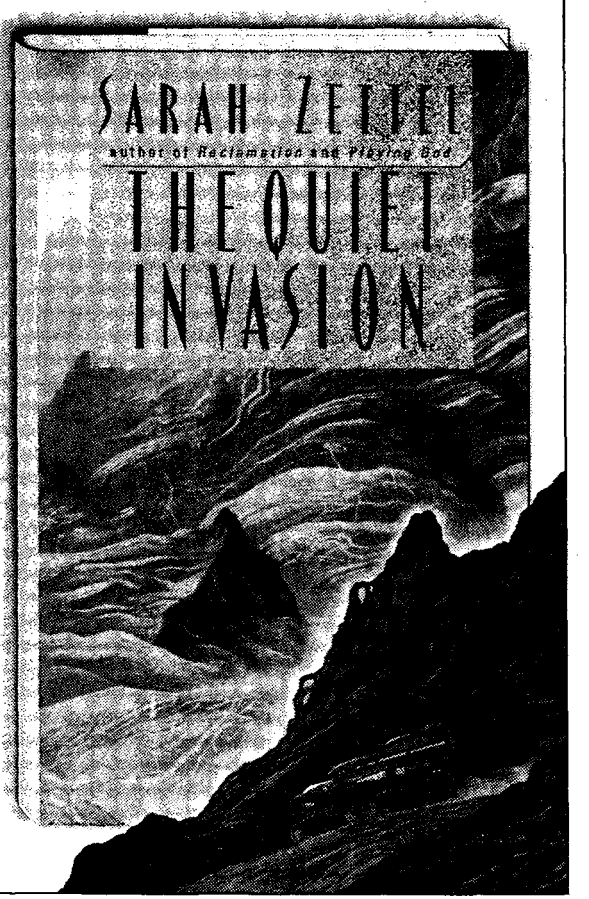
—*The New York Times Book Review* on *Reclamation,* winner of the *Locus* Award for Best First Novel

"Wrenchingly real."

—*Philadelphia Inquirer* on *Fool's War,* a *New York Times* Notable Book of the Year

"A taut, thoroughly captivating yarn with splendid characters."

—*Kirkus Reviews* on *Playing God,* a New York Public Library Best Book for the Teen Age



AVAILABLE IN HARDCOVER WHEREVER BOOKS ARE SOLD

ASPECT
WHERE IMAGINATION KNOWS NO BOUNDS

VISIT OUR WEB SITE AT www.twbookmark.com

THE ASPECT NAME AND LOGO ARE REGISTERED TRADEMARKS OF TIME WARNER TRADE PUBLISHING, INC.
©1999 TIME WARNER TRADE PUBLISHING, INC.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

THE PAST IS IN FRONT OF US

I've been reading *Errata,* a fascinating collection of essays in the guise of an autobiography, by the philosopher and literary critic George Steiner. It was published in 1997 by Yale University Press. Steiner, born in Paris seventy years ago to Austrian parents, grew up polylingual, equally fluent in German, French, and English, and has a keen interest in the way the languages we speak shape our assumptions about the universe. In his seventh chapter he offers a startling thought about the grammatical subtext that makes science fiction possible:

> *The evolution in human speech —it may have come late—of subjunctives, optatives, counter-factual conditionals and of the futurities of the verb (not all languages have tenses) has defined and safeguarded our humanity. It is because we can tell stories, fictive or mathematical-cosmological, about a universe a billion years hence; it is because we can . . . conceptualize the Monday morning after our cremation; it is because "if" sentences ("If I won the lottery," "If Schubert had lived to a ripe age," "If a vaccine is developed against AIDS") can, spoken at will, deny, reconstruct, alter past, present, and future, mapping otherwise the determinants of pragmatic reality, that existence continues to be worth experiencing. Hope is grammar.*

Hope is grammar. What a wonderful insight, and how concisely Steiner phrases it! Because our language—the operating system by means of which our brains organize and communicate concepts—contains a feature that allows us to contemplate the future, we are able to enjoy the luxury of speculating about that future.

Without such little grammatical niceties as subjunctives, conditionals, and future tenses, there would not only be no SF; there would be no surcease whatever from the leaden necessities of our daily round of toil. Life would be an endless series of repetitive todays, lacking even the possibility of daydreaming of some wondrous transformation of our condition that could come on the morrow. The speculative function of our minds is inherently linked to the grammatical permutations of which our minds are capable. As Steiner puts it, it is "the future of 'to be,' of the 'shall' and the 'will,' whose articulation generates the breathing-spaces of fear and of hope, of renewal and innovation which are the cartography of the unknown."

Note, though, that Steiner also points out parenthetically that some languages have no tenses. The example that he gives comes from Jonathan Swift's *Gulliver's Travels,* in which the language of the Houyhnhnms, that noble race of intelligent horses, contains only the present tense. The Houyhnhnms are an altogether admirable people, noble and virtuous in the extreme, but their language is a utilitarian thing, designed purely for the transmission of information. By its grammat-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ical structure alone it excludes the possibility of the free play of the imagination. The Houyhnhnm tongue deals only in facts.

Since the future has no factual existence in the present, it is impossible, by the Houyhnhnm way of thinking, for information about it to exist; indeed, they are baffled even by that exercise of the speculative imagination which we humans call lying, and Gulliver's Houyhnhnm master, responding to Gulliver's tales of what life is like in eighteenth-century Europe—tales which seem like the wildest whoppers to the Houhynhynm—can only accuse Gulliver of having "said the thing which was not." This, of course, is what fiction writers of all sorts do all the time. Science fiction writers extend the practice to a most unHouyhnhnmlike degree; not only do they make up stories about people who never existed, which surely is saying the thing which is not, but they set those stories in places and times that also are not. This magazine has no Houyhnhnm readers whatsoever.

The coolly rational Houyhnhnms exist only in Swift's wonderful novel, which is a work of fantasy. But there are real-world languages that also manage to get along without tenses as we understand them: the one spoken by the Hopi Indians of Arizona, for example. The Hopi do have ways of comprehending past, present, and future, of course. But they encode these concepts in their language in a way quite different from the one we use. The same word, *wari,* carries the meanings, "he is running" and "he ran," as statements of objective fact: as we stand here in the field, we can see him running, or else we can see that the race has just ended. *Era wari* also means "he ran," as a statement of fact, but this time conveyed from the speaker's memory. *Warikni* connotes a statement of expectation:

GARDNER DOZOIS
Editor

SHEILA WILLIAMS
Executive Editor

TREVOR QUACHRI
Editorial Assistant

PAUL STEVENS
Technical Assistant

VALERIE RODRIQUEZ
Editorial Assistant

VICTORIA GREEN
Senior Art Director

SHIRLEY CHAN LEVI
Assistant Art Director

CAROLE DIXON
Production Manager

ABIGAIL BROWNING
Manager Subsidiary Rights and Marketing

SCOTT LAIS
Contracts & Permissions

JULIA McEVOY
Manager, Advertising Sales

BRUCE W. SHERBOW
Director of Newsstand Sales

SANDY MARLOWE
Circulation Services

PETER KANTER
Publisher

CHRISTINE BEGLEY
Associate Publisher

SUSAN KENDRIOSKI
Executive Director, Art and Production

ISAAC ASIMOV
Editorial Director
(1977-1992)

ADVERTISING REPRESENTATIVE
David Geller Publishers' Rep. (212) 682-1540

CLASSIFIED ADVERTISING
Russell Johns Associates (800)237-9851

Please do not send us your manuscript until you've gotten a copy of our manuscript guidelines. To obtain this, send us a self-addressed, stamped business-size envelope (what stationery stores call a number 10 envelope), and a note requesting this information. Please write "manuscript guidelines" in the bottom left-hand corner of the outside envelope. The address for this and for all editorial correspondence is *Asimov's Science Fiction,* 475 Park Avenue South, New York, NY 10016. While we're always looking for new writers, please, in the interest of time-saving, find out what we're looking for, and how to prepare it, before submitting your story.

www.asimovs.com

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"he will run" is how we would say it. *Warikngwe* covers our "he runs" as we use it in such sentences as "he runs on the track team"—a statement of an ongoing condition, not one that is specifically limited to a single observed or recollected event.

Hopi is different from English (or French, or German, or Spanish) in many other ways. For us, "lightning" and "flame" and "meteor" are nouns, that is, the names of things; the Hopi express these things as verbs, terms of perceptible action ("it lightnings," "it flames," "it meteors"). They are statements of transient events; duration is an important aspect of Hopi linguistic thinking. Among the Nootka Indians of Vancouver Island, "house" is a verb-like term, too, but different suffixes are used to convey such varying meanings as a temporary house, a long-lasting house, a house yet to be built, a house that has been begun and abandoned, etc.

Such languages, fundamentally different from ours in ways such as these, are in fact *alien*, from the point of view of one trained to the grammar of European languages. Those who speak them must necessarily view the universe in ways quite different from the way we do. Although the Hopi and the Nootka are, of course, quite human in all respects, the differences between their linguistic structures and ours are so extreme that their entire world-view must be essentially different from ours—an important thing for science fiction writers, hoping to strike a note of alienness in the extraterrestrial cultures that they create, to bear in mind.

This thesis was first put forth early in the twentieth century by an extraordinary scholar, Benjamin Lee Whorf (1897-1941), whose brilliant essays on linguistics were collected in 1956 in a book called *Language, Thought, and Reality* that ought to be in the library of any science fiction writer whose work deals with alien civilizations. The Whorf Hypothesis, as it is known, declares that languages differ in striking and unusual ways, and these differences govern the ways in which their speakers perceive and conceive the world. The Hopi and Nootka examples I provided above come from Whorf's book. But it abounds with hundreds of others, equally startling, equally fascinating. Again and again Whorf demonstrates, in essays like "The Relation of Habitual Thought and Behavior to Language" and "Languages and Logic," how our most basic ways of looking at space and time are rooted in our grammatical assumptions.

A great many science fiction writers have applied the Whorf Hypothesis to the creation of alien languages or thought-forms. I'm one of them, though I blush to say that I can't recall a particular example to cite; it was in my era of breathless prolificity forty years ago, and that's all I can tell you. But I assure you I studied Whorf quite assiduously when his book first appeared.

Jack Vance's novel *The Languages of Pao* (1957) surely reflects a reading of Whorf ("The Paonese sentence did not so much describe an act as it presented a picture of a situation. There were no verbs, no adjectives; no formal word comparison such as *good, better, best.* The typical Paonese saw himself as a cork on a sea of a million waves, lofted, lowered, thrust aside by incomprehensible forces."). Later Vance stories, such as "The Moon Moth," touch on Whorfian themes as well. The physically bisexual beings of Ursula K. Le Guin's *The Left Hand of Darkness* (1969) speak a language specifically tailored to their shifting sexual identities. Samuel R. Delany's *Babel-17* (1966) is another Whorfian SF novel; Suzette Haden Elgin,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

in several novels with strong feminist undertones, has dealt with the invention of a secret female language designed as a weapon in the battle of the sexes; and so forth.

Whorf's idea that a culture's linguistic idiosyncrasies have a profound shaping effect on that culture's world-views can be used as the springboard for a multitude of dazzling science fiction inventions. So, too, can its conceptual antithesis, Noam Chomsky's notion that the language ability is hard-wired into the human brain and that all languages share a common deep structure: Ian Watson put Chomsky's theory to brilliant use in his 1973 novel, *The Embedding*, which carries Chomsky forward to suggest that there may be a grammar common to all intelligent life-forms of the universe. But one idea does not really exclude the other. Even if the deep linguistic structures are alike everywhere (at least on Earth), Whorf's book gives us an extraordinary mass of evidence to bolster his view of the distinctive shaping effect of grammar on culture. As George Steiner, definitely a Whorfian, puts it, "No two languages, no two dialects or local idioms within a language, map their worlds in the same way. Every tongue ever spoken by men and women . . . opens its own window on life and the world."

And he cites the example of an Indian tribe that he does not name, one that lives high up in the Andes, in whose language one speaks of the past as lying "in front of" us. To us that seems a very strange way of putting things, until we pause to consider that although the past is accessible to some degree to our memories, the totality of the future will always be a mystery. And so, while we can rove through the events of the past as easily as though they lie before us on an open plain, we are compelled to move blindly backward into the unknown future, unable to see any aspect of it clearly until we are in the very midst of it.

The past is in front of us. We go backward into the future. There's innate poetry in the thought, and a world-view quite different from yours or mine. But to that unnamed Indian tribe, it's just a way of speaking, a matter of grammatical construction, which happens to open the door, for us, to a wholly new way of viewing the universe. O

We welcome your letters, which should be sent to ***Asimov's***, 475 Park Avenue South, New York, New York 10016 or e-mail to **asimovs@dellmagazines.com**. Space and time make it impossible to print or answer all letters, but please include your mailing address even if you use e-mail. If you don't want your address printed, put it only in the heading of your letter; if you do want it printed, please put your address under your signature. We reserve the right to shorten and copy-edit letters. The e-mail address is for editorial correspondence *only*—please direct all subscription inquiries to: P. O. Box 54033, Boulder, Co 80322-4033.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

GUEST EDITORIAL

Arthur C. Clarke

THE TWENTY-FIRST CENTURY: A (VERY) BRIEF HISTORY

By now, most people must be bored stiff by the endless arguments about the "millennium bug" or the "Y2K problem," so my apologies for bringing up the subject yet again.

I first encountered the Bug when researching my novel about the *Titanic*, and I would like to quote the words I wrote almost ten years ago. (Note that my prediction for June 5, 1995, did not come true—luckily! But worse may happen in the months ahead.)

When the clocks struck midnight on Friday, December 31, 1999, there could have been few educated people who did not realize that the twenty-first century would not begin for another year. For weeks, all the media had been explaining that because the Western calendar started with Year 1, not Year 0, the twentieth century still had twelve months to go.

It made no difference; the psychological effect of those three zeros was too powerful, the fin de siècle ambience too overwhelming. This was the weekend that counted; January 1, 2001, would be an anticlimax, except to a few movie buffs.

There was also a very practical reason why January 1, 2000, was the date that really mattered, and it was a reason that would never have occurred to anyone a mere forty years earlier. Since the 1960s, more and more of the world's accounting had been taken over by computers, and the process was now essentially complete. Millions of optical and electronic memories held in their stores trillions of transactions—virtually all the business of the planet.

And, of course, most of these entries bore a date. As the last decade of the century opened, something like a shock wave passed through the financial world. It was suddenly, and belatedly, realized that most of those dates lacked a vital component.

The human bank clerks and accountants who did what was still called bookkeeping had very seldom bothered to write in the 19 before the two digits they had entered. These were taken for granted; it was a matter of common sense. And common sense, unfortunately, was what computers so conspicuously lacked. Come the first dawn of '00, a myriad of electronic morons would say to themselves, "00 is smaller than 99. Therefore today is earlier than yesterday—by exactly ninety-nine years. Recalculate all mortgages, overdrafts, interest-bearing accounts, on this basis." The result would be international chaos on a scale never witnessed before; it would eclipse all earlier achievements of Artificial Stupidity—even Black Monday, June 5, 1995, when a faulty chip in Zurich set the bank rate at 150 percent instead of 15 percent.

There were not enough programmers in the world to check all the billions of financial statements

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

that existed, and to add the magic 19 prefix wherever necessary. The only solution was to design special software that could perform the task, by being injected—like a benign virus—into all the programs involved.

During the closing years of the century, most of the world's star-class programmers were racing to develop a "Vaccine '99"; it had become a kind of Holy Grail. Several faulty versions were issued as early as 1997—and wiped out any purchasers who hastened to test them before making adequate backups. The lawyers did very well out of the ensuring suits and countersuits.

Edith Craig belonged to the small pantheon of famous woman programmers that began with Byron's tragic daughter Ada, Lady Lovelace, continued through Rear Adm. Grace Hopper, and culminated with Dr. Susan Calvin. With the help of only a dozen assistants and one SuperCray, she had designed the quarter million lines of code of the DOUBLEZERO program that would prepare any well-organized financial system to face the twenty-first century. It could even deal with badly organized ones, inserting the computer equivalent of red flags at danger points where human intervention might still be necessary.*

It was just as well that January 1, 2000, was a Saturday; most of the world had a full weekend to recover from its hangover—and to prepare for the moment of truth on Monday morning.

The following week saw a record number of bankruptcies among firms whose accounts receivable had been turned into instant garbage. Those who had been wise enough to invest in DOUBLEZERO survived, and Edith Craig was rich, famous—and happy.

Only the wealth and the fame would last.

Well, even as I write these words, armies of real-life Edith Craigs are working on this problem. Let us hope that their efforts will be successful, and that there will not have been too many disasters by the time the real millennium dawns on January 1, 2001—not 2000.

Despite all claims to the contrary, no one can predict the future, and I have always resisted all journalistic attempts to label me a prophet. What I have tried to do, at least in my nonfiction, is to outline possible futures—at the same time pointing out that totally unexpected inventions or events can make any forecasts absurd after a very few years.

So the chronology that follows should be given with a "health warning." Some of the events listed (particularly the space missions) are already scheduled and will occur on the actual dates given; I believe all the others could happen—though several, I hope, will not. Despite temptation I have omitted many interesting and all-too-possible disasters because optimism about the future is always desirable; it may help to create a self-fulfilling prophecy.

Check me for accuracy—on December 31, 2100. Alas, 2008 already canceled.

2001. January 1. Next millennium and century begin.

Cassini space probe (launched October 1997; arrived Saturn, July 2000) begins exploration of the planet's moons and rings.

Galileo probe (launched October 1989) continues surveying Jupiter

*For more on Grace Hopper, see "Green Fire" on page 00.

—the editors

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and its moons. Life beneath the ice-covered oceans of Europa appears increasingly likely.

2002. The first commercial device producing clean, safe power by low-temperature nuclear reactions goes on the market, heralding the end of the fossil-fuel age. Economic and geopolitical earthquakes follow, and on December 10, for their discovery of so-called cold fusion in 1989, Pons and Fleischmann receive the Nobel Prize for physics.

2003. The automobile industry is given five years to replace all fuel-burning engines by the new energy device.

NASA Mars surveyor (carrying lander and rover) launched.

2004. First (publicly admitted) human clone.

2005. NASA Mars surveyor (sample return) launched.

2006. Last coal mine closed.

2007. NASA next-generation space telescope (successor to the Hubble) launched.

2008. July 26. On his eightieth birthday, Stanley Kubrick receives a special Oscar for lifetime achievement.

2009. A city in a third world country is devastated by the accidental explosion of an A-bomb in its armory. After a brief debate in the United Nations, all nuclear weapons are destroyed.

2010. The first quantum generators (tapping space energy) are developed. Available in units from a few kilowatts upward, they can produce electricity indefinitely. Central power stations close down; the age of pylons ends as grid systems are dismantled.

Despite "Big Brother!" protests, electronic monitoring virtually removes professional criminals from society.

2011. Largest living animal filmed—a seventy-five-meter octopus in the Mariana Trench.

By a curious coincidence, later that same year even larger marine creatures are discovered; when the first robot probes drill through the ice of Europa, an entire new biota is revealed.

2012. Aerospace planes enter service. The history of space travel has repeated that of aeronautics, though more slowly as the technical problems are so much greater. From Gagarin to commercial spaceflight has taken twice as long as from the Wright brothers to the DC3.

2013. Despite the objections of the Palace, Prince Harry becomes the first member of the royal family to fly in space.

2014. Construction of Hilton Orbiter Hotel begins, by assembling and converting the giant shuttle tanks that had previously been allowed to fall back to Earth.

2015. An inevitable by-product of the quantum generator is complete control of matter at the atomic level. Thus the old dream of alchemy is realized on a commercial scale, often with surprising results. Within a few years, lead and copper cost twice as much as gold—since they are more useful.

2016. All existing currencies are abolished. The megawatt hour becomes the unit of exchange.

2017. December 16. On his one

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

hundredth birthday, Sir Arthur C. Clarke becomes one of the first guests in the Hilton Orbiter.

2019. A major meteor impact occurs on the north-polar ice cap. There is no loss of human life, but the resulting tsunamis cause considerable damage along the coasts of Greenland and Canada. The long-discussed Project Spaceguard is finally activated, to identify and deflect any potentially dangerous comets or asteroids.

2020. Artificial intelligence (AI) reaches the human level. From now onward, there are two intelligent species on planet Earth—one evolving far more rapidly than biology would ever permit. Interstellar probes carrying AIs are launched toward the nearer stars.

2021. The first humans land on Mars and have some unpleasant surprises.

2023. Dinosaur facsimiles are cloned from computer-generated DNA. Disney's Triassic Zoo opens in Florida. Despite some unfortunate initial accidents, mini-raptors start replacing guard dogs.

2024. Infrared signals are detected coming from the center of the galaxy. They are obviously the product of a technologically advanced civilization, but all attempts to decipher them fail.

2025. Brain research finally leads to an understanding of all the senses, and direct inputs become possible, bypassing eyes, ears, skin, etc. The inevitable result is the "Braincap," of which the twentieth century's Walkman was a primitive precursor. Anyone wearing a metal helmet fitting tightly over the skull can enter a whole universe of experience, real or imaginary—and even merge in real time with other minds.

Apart from its use for entertainment and vicarious adventure, the Braincap is a boon to doctors, who can now experience their patients' symptoms (suitably attenuated). It also revolutionizes the legal profession; deliberate lying is impossible.

As the Braincap can only function properly on a completely bald head, wig-making becomes a major industry.

2040. The universal replicator, based on nanotechnology, is perfected: any object, however complex, can be created given the necessary raw materials and the appropriate information matrix. Diamonds or gourmet meals can, literally, be made from dirt.

As a result, agriculture and industry are phased out, ending that recent invention in human history—work! There is an explosion in arts, entertainment, and education.

Hunter-gathering societies are deliberately re-created; huge areas of the planet, no longer needed for food production, are allowed to revert to their original state. Young people can now discharge their aggressive instincts by using crossbows to stalk big game—robotic, and frequently dangerous.

2045. The totally self-contained, recycling, mobile home (envisaged almost a century earlier by Buckminster Fuller) is perfected. Any additional carbon needed for food synthesis is obtained by extracting CO_2 from the atmosphere.

2050. "Escape from utopia." Bored by life in this peaceful and unexciting era, millions decide to use cryonic suspension to emigrate into the future in search of adventure. Vast "hibernacula" are established in the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Antarctic, and in the regions of perpetual night at the lunar poles.

2057. October 4. Centennial of *Sputnik I*. The dawn of the Space Age is celebrated by humans not only on Earth but on the Moon, Mars, Europa, Ganymede, Titan—and in orbit around Venus, Neptune, and Pluto.

2061. The return of Halley's Comet; first landing by humans. The sensational discovery of both dormant and active life-forms vindicates Hoyle and Wickramasinghe's century-old hypothesis that life is omnipresent throughout space.

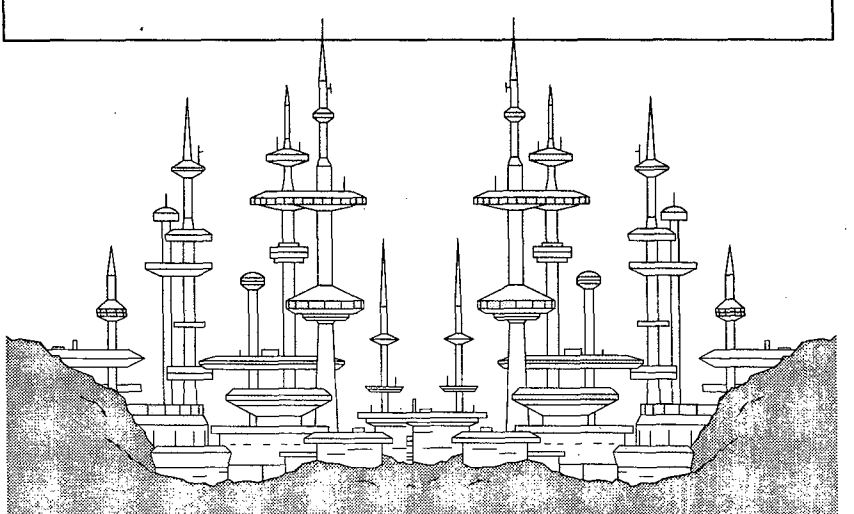
2090. Large-scale burning of fossil fuels is resumed to replace the carbon dioxide "mined" from the air, and—hopefully—to postpone the next ice age by promoting global warming.

2095. The development of a true "space drive"—a propulsion system reacting against the structure of space-time—makes the rocket obsolete and permits velocities close to that of light. The first human explorers set off to nearby star systems that robot probes have already found promising.

2100. History begins. . . . ○

We are delighted to have this chance to bring you Sir Arthur Clarke's history of the twenty-first century. One of the twentieth century's most renowned author's recent publications include a collection of essays, *Greeting Carbon-Based Bipeds!* (St. Martin's Press, 1999), and his collaborative novel with Stephen Baxter, *The Light of Other Days* (Tor).

Copyright © 1999 by Arthur C. Clarke. Reprinted by permission of the author and the author's agents, Scovil Chichak Galen Literary Agency, Inc.

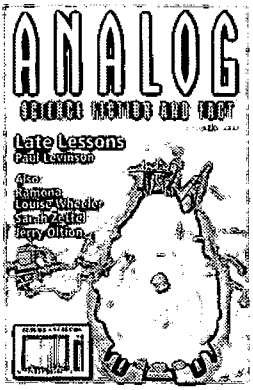


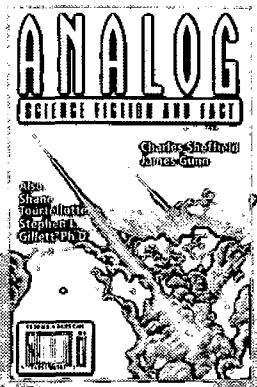
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TOUR THE UNIVERSE

Just $6.95!

Save 60%





Explore the boundaries of imagination with the Analog Science Fiction Value Pack. You get five of our most popular back issues for just $6.95 plus shipping. That's a savings of 60% off the regular price!

Complete the order form below and mail it back to us with your payment today.

PENNY MARKETING

Dept. SM-100, 6 Prowitt Street, Norwalk, CT 06855-1220

☑ **YES!** Please send me my **Analog Science Fiction Value Pack**. I get 5 back issues for just $6.95 plus $2 shipping and handling ($8.95 per pack, U.S. funds). **My satisfaction is fully guaranteed!** My payment of $ _____ is enclosed.
(AFPK05)

Name: _____
(Please print)

Address: _____

City: _____

State: _____ **ZIP:** _____

Please make checks payable to Penny Marketing. Allow 8 weeks for delivery. Magazines are back issues shipped together in one package. To keep prices low we cannot make custom orders. Add $4 additional postage for delivery outside the U.S.A. Offer expires 12/31/00. 040C-NANVL1

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

On the Net

James Patrick Kelly

THE RING OF TIME

Opening Rant

Way back in the second installment of this column, I grumped about the inadequacies of search engines. Since then, **Hotbot** (*http://www.hotbot.com*), **Lycos** (*http://www.lycos.com*), **Altavista** (*http://www.altavista.com*), and **Excite** (*http://www.excite.com*) have evolved into what are called portals. This means that not only can you struggle to look stuff up at these sites but now you can get free—if very slow—email, shop for a pricey new Volkswagen or chat up other netizens with not a whole lot to do. Portalization is not exactly my idea of progress; I'd rather these sites had expended more resources on better and faster searching. I still use Excite as my default home page in Netscape, but I'm not very excited about it. In fact, tell you what: I'm going to dump it right now.

Remember how to chose what page loads when your browser starts? In Netscape, click on *Edit*, then *Preferences*. A dialog box pops up. Make sure that *Navigator* is highlighted on the left, then on the right click *Navigator Starts With Home Page* and then underneath it, type in the URL of the page you want. If you've sold your soul to Bill Gates, then click on *View* in Explorer, then *Internet Options*. Type in the URL in the *Home Page* dialog box.

So long, Excite. But wait, what *is* the first thing I want to see when I pop onto the net?

Although I certainly do a lot of goofing off online, the theory is that I'm using the net primarily for research. So that means I should probably stick with some kind of search engine. Well, the best these days are those that search other search engines. The two metasearchers that I most often use are **Northern Light** (*http://www.northernlight.com/*) and **Dogpile** (*http://www.dogpile.com*). Dogpile searches twelve different search engines, including Altavista, Lycos, and Yahoo. My only quibble with this otherwise excellent site is its name. I'm okay with cute, but there's something vaguely distasteful about a dogpile—or is it just me? By some accounts, Northern Light casts the widest net of any search engine, cataloging as much as a sixth of all web pages. Unfortunately, searches on Northern Light can be painfully slow, especially in the middle of the business day. Since Dogpile is unfailingly nimble, I'm going to hold my nose and make it my browser's default.

Okay, now that I've got that over with, I guess I'd better start the column.

Ringing in the sites

If, like me, you're ready to give up on search engines, here's another way to navigate the net. Although it is neither faster nor more accurate than using search engines, it is often more surprising and entertain-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ing. A *web ring* (or is it *webring?*) is a circle of interlinked sites that claim to have a common interest. Those webmasters who choose to join a web ring display a prominent ring banner on their sites, typically on the index page. This banner contains links to the next and previous sites in the ring, a link that makes a random jump to a site farther around the ring and a link to the ring's homepage, where all the ring's sites are listed.

Clicking to **Webring** (*http://www.webring.com*) will give you a good idea of how web rings work and point you toward rings you might want to explore yourself. And there's a lot of exploring to do. Check these stats: "Daily page requests from visitors exceed 2,000,000; Member sites total over 1,300,000; Rings total over 80,000." Web ring subjects range from the timeless, like **The Ancient Rock Art Webring** (*http://members.xoom.com/epigraphy/*) to evanescent, like **The Animated Dancing Pages Web Ring** (*http://members.aol.com/pinkbreez/index.html*).

The decision of how much the sites in any given web ring must actually have in common is left to the discretion of the ringmaster. Some are tight as ice, others loose as air. My experience with science fiction web rings is that everything depends on the subject matter. Actually, I probably should be too embarrassed to claim any experience with science fiction web rings at all. I'm familiar with maybe a dozen or so, including the one I'm on, the **Science Fiction Writers of America Webring** (*http://www.sfwa.org/*), which has a hundred and thirty-one member sites. But when I opened **RingWorld | Entertainment | Science Fiction** (*http://www.webring.com/ringworld/ent/scifi.html*), the page took a minute and eleven seconds to load. It's enormous! Now with a fan web ring, say, William Gibson's **Neuromancer's Matrix** (*http://www.loibnegger.com/neuromancer/*) or Jeri Ryan's **Designation: Seven of Nine Webring** (*http://members.tripod.com/~AuraZ/webring/join.html*), you pretty much know what you're going to get. But let the subject be a little more generalized, like aliens or robots or time travel, and you may find yourself clicking into the heart of strangeness.

Plenty of time

The **Time Travel WebRing** (*http://www.geocities.com/ResearchTriangle/1591/ttring.html*) "is dedicated to web pages that have information on them relating to time travel and time machines, fact or fictional." There are thirty-one sites on this modest ring, maintained by ringmaster Shawn Driscoll. Some are personal pages with time travel sections. There are several time travel role playing games represented, as are a couple of romance/SF writers who specialize in time travel plots. Here's a sampling of a few sites that caught my eye.

The Time Travel Institute (*http://xone.net/tti/*) maintains a site that is low on graphics and high on wit. The purported staff of the institute are Dr. Gunthar VonSchnelling, who according to his bio is quite mad; Dr. Yoshi Yamamoto, his lab assistant and henchman; and Cletus and Otis, who are vampire penguins. The institute is the creation of one Raul Burriel, whose tongue-in-cheek take on time travel is nevertheless sound on basic principles. Check the eclectic, but by no means comprehensive, reading list at the Institute's Campus Store.

TTV (*http://209.85.121.96/TimeTunnel/index.html*) stands for Temporal Transport Volunteers; these folks have the angle on time travel.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

According to TTV, when time travel is finally perfected, the scientists who will be running the show will import people from today into the future. But how to chose who will go forward? The TTV gang sees big problems. The scientists can't snatch famous people; the rest of us would notice if Bill Clinton just up and disappeared. We might not care all that much, but we *would* notice. So the snatchees must be appropriate candidates, which—reading between the lines—means that they must necessarily be the losers of all time. Neither they nor their progeny will make any contribution whatsoever to history. The snatchees must also be willing to make the jump into the future; it seems that it's a one-way trip. Although there is psychological rationale for taking only volunteer snatchees, the real reason is that the TTV gang is quite certain that the future is going to be even more litigious than now. Rampaging lawyers will descend on the poor time travel scientists and sue them into oblivion for snatching historicals without permission! Which brings us to the reason for the TTV site. Welcome to the sign-up sheet for those of us willing to be temporally transported. The idea here is that this database will be passed on from generation to generation until time travel is perfected, after which the scientists will be able to pick and chose from the list of volunteers. Sure it's a long shot, but if you want to see the future, it's a hell of a lot cheaper than having your head cryogenically frozen. After you, Alphonse.

Traveling a little farther afield, I clicked to **Welcome to Time Machine** (*http://www.time-machine.spb.ru/*), a Russian site created by Alexander V. Frolov of St. Petersburg. The index page proclaims: "There are no state secrets here. All papers are presented here with authors' permission for open publication." A different mind set, indeed. It seems that Mr. Frolov would like to find a position in time travel R&D. I can't vouch for the quality of his research but he certainly talks a good game. Clicking deeper into the site I arrived at a page called "Gravity and Time Control." Clearly your intrepid English major was way over his head but I did take a peek at a learned paper called "The Ether Model as Result of the New Empirical Conception" by A. M. Mishin, who is an Academician of the International Academy of MegaSciences. Fair enough. Unfortunately, at the fourth sentence, my brain overloaded. Here it is: "The obtained data is a basis for a qualitative model of the ether, that has spatial-temporal spectrum of the vortex-wave states from the near-zero scales to the megascales and features a topological diversity." Question to my science literate readers: Is ether back? I thought relativity blew it away.

Reeling from Welcome to Time Machine, I clicked to what proved to be its anti-site: **Dr. Brainz Lab of Knowledge** (*http://www.geocities.com/Area51/Chamber/3626/index.html*), where I was greeted by some cheesy sci-fi MIDI music and the following: "AHHHHAHAHAHA-HA!!, Welcome my friend, I am Dr. Brainz, wont you please come in. This is my Laboratory! Most people call it . . . DR. BRAINZ LAB OF KNOWLEDGE!!!" I was unable to determine Dr. Brainz's secret identity, but, despite a shaky grasp of spelling and punctuation and an unfortunate addiction to exclamation points, the mad Doctor has given us a diverting site, indeed. It's dedicated not only to time travel but also to a variety of fringe matters such as UFOlogy, conspiracy, teleportation, cryptozoology, the paranormal, and antigravity, to name but a few.

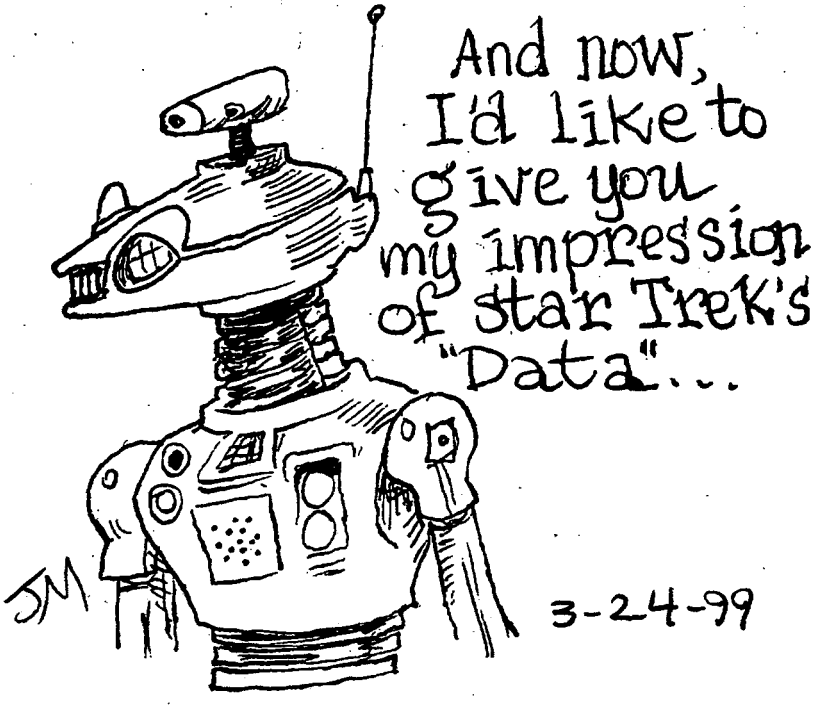
LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Don't miss his tribute page to mad science; it would seem Dr. Brainz is something of an authority.

Exit

In the last month, I've done a kind of time traveling myself. I've been exiled to the year 1997—*ack!* You see, I spent last summer rebuilding an old house on a beautiful little lake here in New Hampshire. Much of that time I was off-line, which made it difficult to write a column about the net. In fact, if it hadn't been for the patience of Saintly Sheila Williams, I probably would have missed a few installments—thanks, Sheila! As I write this in November, I've been reliably connected to the net again for about two weeks. Now Portsmouth, where I used to live, is one of the Granite State's most wired cities; it was no problem to connect through phone lines at 56Kbps. Imagine my horror when I first logged on from bucolic Nottingham, where I live now, only to find that the fastest connection my modem can make is 28,800. Like I said, *trapped in 1997!* Logging on from the past has given me a new perspective on site design—my tolerance for bloated jpgs and Java geegaws is pretty low, I'm afraid. I'm told that I'll be able to get cable modem sometime after the first of the year, at which time I'll join the rest of you in the twenty-first century.

Until then, I guess I'll just have to be your blast from the past. O



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Robert Reed

THE PROPHET UGLY

Robert Reed tells us he "dreamed up an image of our evolutionary ancestors falling from the stars, and suddenly, H. sapiens were the primitive ones. I meant to use Neanderthals, but it immediately hit me that that species/race is the player of choice in science fiction. So I went to an older cast of characters." Mr. Reed's next novel, *Marrow,* will be out soon from Tor and his collection, *The Dragons of Springplace,* is still available from Golden Gryphon Press.

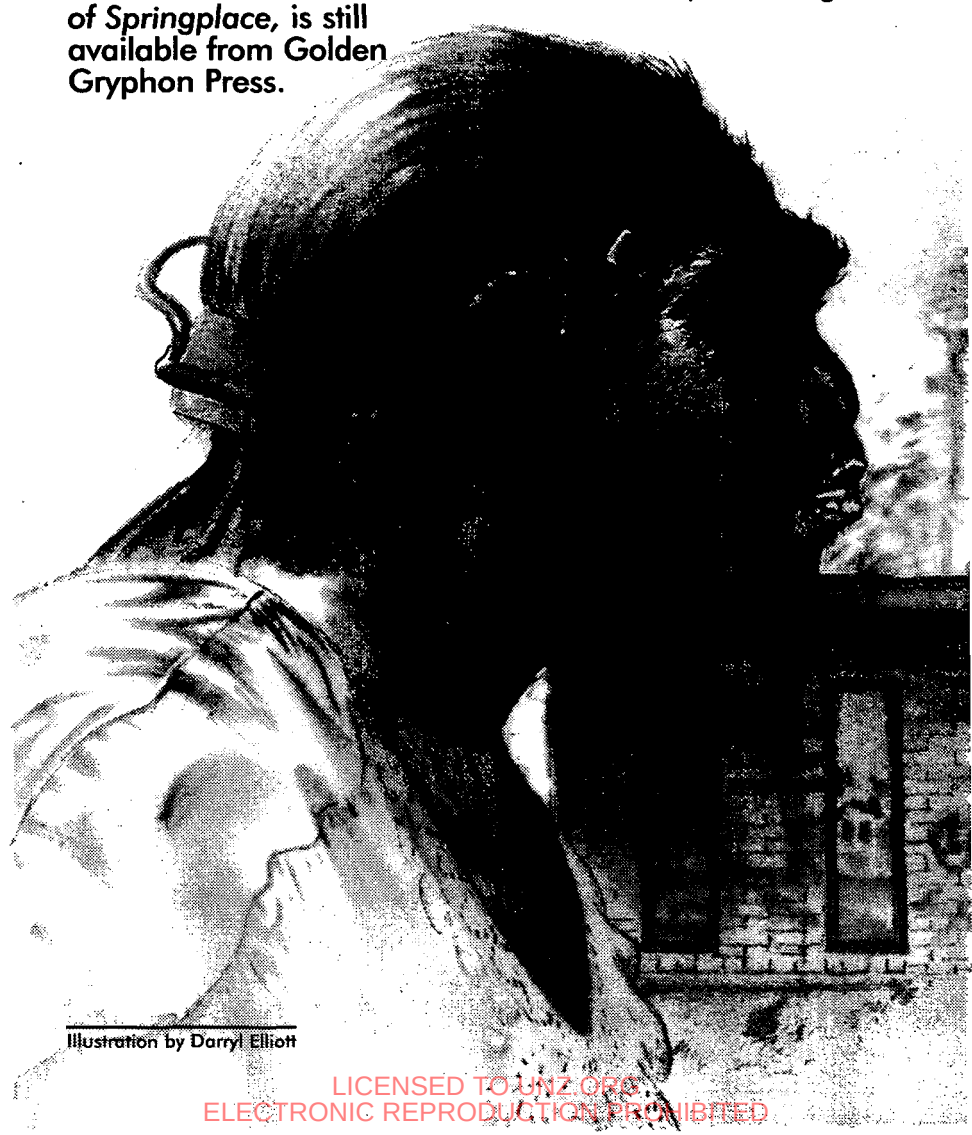
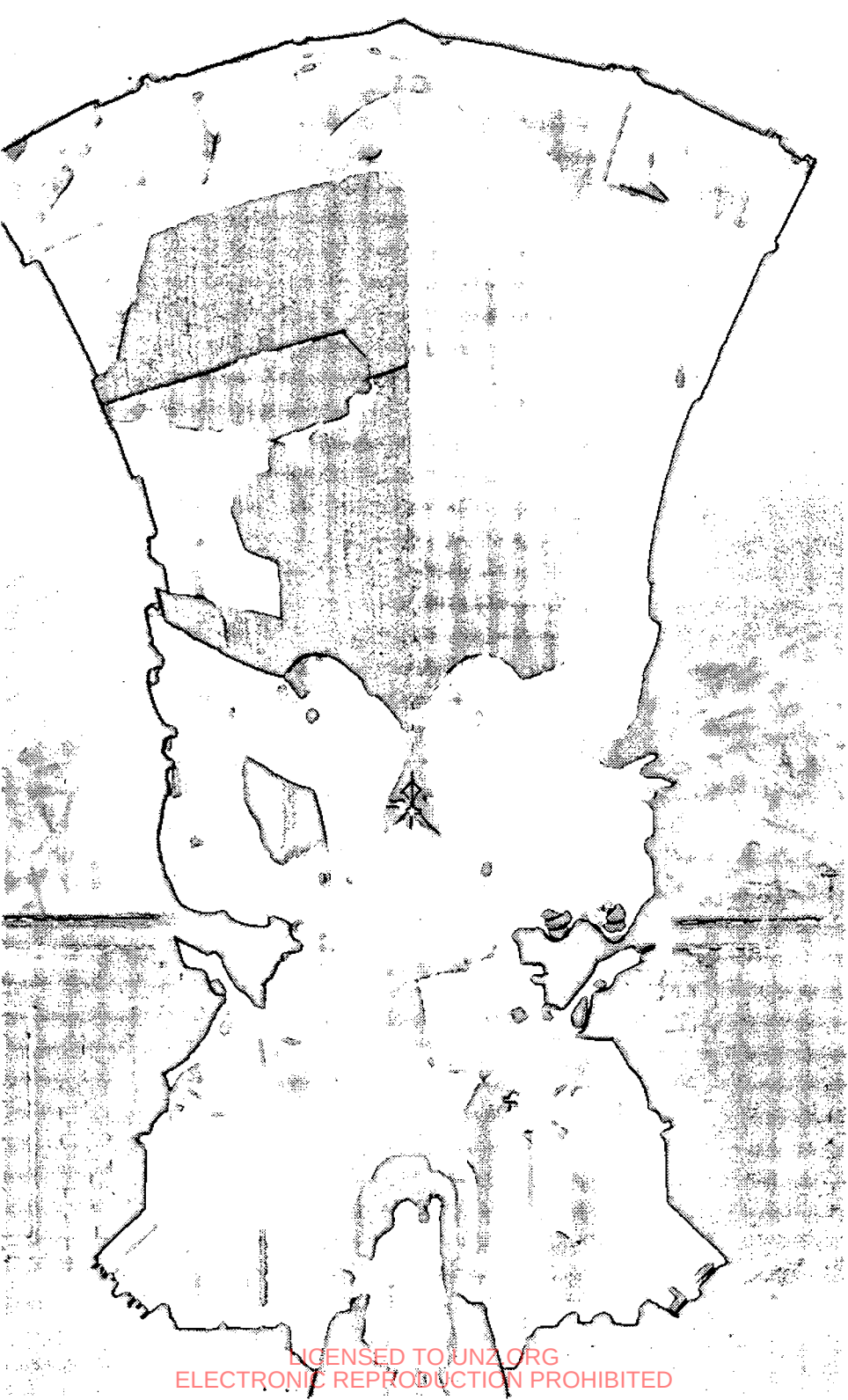


Illustration by Darryl Elliott

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

One of Mrs. Bernstein's daughters filled some important chair down at City Hall. It was a Thursday afternoon in May when she called her mother from work, and in the strictest confidence warned her what had just happened, and more important, what was coming. And Mrs. Bernstein, being a vigorous eighty years old—not to mention easily enraged—stormed out of her house and marched straight up Glenwood Road, ringing doorbells and telling the awful news to whoever happened to be home.

Both Mom and Mr. Nate were off at work.

Alex was sitting on his floor with his calculus and his American government. And his copy of *The Book of All,* too. But he was being good, doing nothing but his schoolwork. The doorbell was a soft, distant sound. It took Alex a few moments to pull himself out of his derivatives. Mrs. Bernstein had already stepped off the concrete porch when he finally opened the front door. Standing on the walk, squinting in the bright sunshine, she growled, "It's the uglies! One of them just bought our school!" She couldn't see Alex well, what with the glare and the storm door and her old eyes. She called him, "Mr. Nate." Then she told him, "I thought you'd want to know right away!"

Alex stepped out onto the porch.

She blinked and grunted, "Oh," when she realized who he was.

"What school?" Alex muttered.

"Our school! Conestoga, of course!" A pudgy arm pointed in no definite direction. "For three times what the city was asking for it! He stole it from us!"

Alex remained on the porch, keeping distance between him and that fierce little woman. "And who'd you say bought it?"

"I don't know which one of them," she complained. "Does that matter?"

"But you said . . . an *ugly*. . . ?"

"I most certainly did!" She was enraged. She was on a mission. "I have a confidential source," she said. "What this ugly intends is to rebuild our school, then move into it. And live next to us. Us. Right behind my house, and yours."

"Inside where?"

"Have I had a stroke, young man? Can't you understand me?"

Conestoga Elementary had been closed since Christmas. That one of *them* would have any use for that long low red-brick building seemed incredible. Impossible. Easily, this was the strangest rumor yet.

Alex had to ask, "Why would he want to live here?"

"How should I know? Do I look like one of them?"

She was short and pale and puffy. And stupid in all the old ways. Alex could honestly tell her, "No, ma'am, you don't look like them. Not at all."

"I should hope not."

Then he offered what seemed like the obvious answer. "Maybe he's a scientist. An anthropologist. And he's coming here to study us."

"I don't care about the creature's motives," she warned.

Then, in frustration, she asked, "Where are your parents?"

"They've got jobs," he replied.

"Warn them," she said. "As soon as you can."

"If it's really true," he countered.

The old woman shook her head in disgust, then shuffled across the green lawn, aiming for the Eaves' house.

Alex beat her there. He hurried into his room and made the phone call,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and as soon as Will's face appeared, he said, "Don't answer your doorbell. Unless you really like talking to Old Mrs. Bernstein."

"What's she want?" his best friend asked.

"Oh, she just heard some other bullshit rumor."

"About the ugly coming to live here?" he asked.

"You know about it?"

"Go to their official Web site. They just posted the news."

Will always kept close tabs on the uglies. "'One of our brothers will be coming to live with you,'" he read aloud. "'We ask you, our dear cousins, to please respect his privacy.'"

"Okay," said Alex. "But do they tell you *where* he's living?"

"No, they don't," Will admitted. "Where?"

Alex waited as long as possible. Then the truth ran out of his mouth.

His best friend was a big strong sixteen year-old. Even on the monitor's screen, he was imposing. He had a long bony face that girls seemed to appreciate, and strong hands that always had to be touching his implant. As the words registered, one hand reached behind his head now. Just to feel the device. Alex heard the Eaves' doorbell ringing in the distance. Then with a stunned little voice, Will asked, "Is that true?"

And because it was too incredible to believe, he asked, "But why *here?*"

Alex fell back to his best hypothesis: The anthropologist ugly.

Will wasn't any more impressed than Mrs. Bernstein had been. He shook his head, asking, "Why would they send a scientist? They already know everything about us."

Maybe so, thought Alex.

But instead of admitting it, he asked, "What's your best guess?"

A long, thoughtful silence. Then Will offered, "In their book, they talk about banishments. Sometimes one of them does something that causes him to leave the tribe."

"He's a criminal, you mean."

"That's not really it. Not exactly."

"What is it then?"

"It's complicated. I don't understand most of it."

That from someone who absorbed everything he could about their cousins. Who adored the species, and everything they had brought with them. Will's copy of *The Book of All* looked as if he slept with it, the corners worn and the leather cover stained with a hundred different meals.

"They don't have crime," Will explained, "and they don't believe in taboos. But if one of them feels as if he doesn't belong . . . that's the best reason to banish someone. I bet that's what is happening here. Yeah, I'm sure of it!"

The uglies had been here for barely three years, thought Alex.

Who knew anything for sure?

But in this emotional climate, it was usually smart just to nod and let your best friend explain the universe as he saw it.

That same caution applied several hours later, at dinner, listening to your stepfather—an intense and narrow man who never lacked for opinions—as he wrestled with the idea that he might actually be living near one of *them*.

"I don't like this. Just thinking about it makes me sick!"

"I don't like it, either," Mom chimed in.

"It's not as if they need our homes, too. Christ, how many are up there? In that bigass can of theirs—!"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Sixty thousand," Alex squeaked.

Nobody seemed to hear him.

"There's absolutely no need for them to come here," said Mom, shaking her head as she glanced out the kitchen window. "They've got plenty of room on their ship. That's what they told us. When it began."

They were quite a team, those two. Mr. Nate loved to get stirred up, and Mom knew how to keep him that way. She did it intentionally. She once told Alex that her first two marriages went wrong because she had ignored her husbands' interests. She told him this just before she married Mr. Nate. A year before the uglies arrived. "I'm not making that same mistake," she told her then twelve year-old son. Proud of her reasoning, and determined.

"That hairy son of a bitch," Mr. Nate roared.

"More potatoes?" Mom grabbed her son's plate before he could answer. Then as she stood at the counter, shoveling over the last of the oven fries, she thought to ask, "Have you heard anything else, Alex? About the ugly, I mean."

He might have been banished from the starship, the boy thought.

But even hinting it would be dangerous. So instead, Alex muttered, "Maybe it's not really true. About him living next to us. Will and I can't find anything definite on the Web. And Mrs. Bernstein is usually mixed up—"

"That crazy old Jew," growled Mr. Nate.

"Now, now," Mom warned. She always drew the line at religion. At least if they were Jewish, or Catholic. Then she eased them back to the real villain, asking, "How soon is the ugly supposed to move in? Does anyone know?"

"When the school's renovated, I suppose."

Mr. Nate threw down his fork, shouting, "I'll tell you. What we ought to do, right now, is march down there and burn down the goddamn school. Before the bastard can finish stealing it from us."

Alex tried to concentrate on the cold, undercooked potatoes.

"A gas can, one good match, and we can be left the hell alone." Mr. Nate was older than Mom by a long ways, and not nearly as handsome as her first husbands. Or Alex's father, either. But when he was furious, his gray hair seemed to shine, and his flesh found new color, and there was a vitality flowing through him that would, if it didn't quit soon, probably cause a vessel to bust in his brain. "Someone needs to organize people," he told them. And himself.

"As soon as possible. As much as possible. If we do this together, as a neighborhood, who can blame us?"

Mom said nothing in a conspicuous way.

She sat down beside Mr. Nate, one hand reaching for his hand, then stopping short. She seemed old suddenly. Gray in the hair, in the face. And tired. She glanced at her son with an odd, almost secretive look, and her hand unconsciously reached up and touched the back of her head. Where the implants went. But of course she didn't have anything to touch but hair and scalp, and with her tired voice, she said, "Dessert? Darling?"

Who was she talking to?

Son and husband glanced at each other, wondering. Then Mr. Nate cried out, "What about the ugly?"

"I've only got enough ice cream for you two," Mom said.

Then she stood, and like someone grateful for any distraction, she started to quickly and furiously clear the table.

* * *

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

While they ate dessert, the mayor's office made a quiet public announcement.

Yes, the abandoned school had been purchased. And yes, one of the visitors was planning to live among them for an indeterminate period. In advance, apologies were offered for any disruptions and inconveniences. Police were already setting up roadblocks around the neighborhood, ready to turn back anyone without a local address or accompanied by a resident. The renovation would begin immediately, it was promised. And sure enough, with nightfall came one of the standard mother-tools, plunging from the sky, knifing its way through the school's flat tar-and-gravel roof, then exploding—the building's rebirth beginning with a sharp *boom* and a shimmering cloud of quick, newborn machines.

The boys were sitting in Alex's backyard, on the neatly mowed grass, watching the play of colored lights seeping through the long windows, listening to the odd, unmachinelike whispers as the interior walls were moved or eliminated, every new surface left impregnated with an ugly's odd devices.

At least, they assumed that's what was happening.

Conestoga had been their school. Alex was always glad to have escaped from it, just as he was thrilled three years later to have gotten free of Idlewhite Middle School. And yet. There was a piece of him that felt as if he owned the bricks and whiteboards and those low, low water fountains that never delivered more than a warm trickle. This was his school, after all, and part of him thought it was being taken from him. Which was a stupid way of thinking, he kept reminding himself. Stupid and childish, and he made himself concentrate on more important things. But then his mind would waver, and a vivid little anger would rise up from his belly, taking him hostage all over again.

He was thinking like a kid, he warned himself.

Like a primitive.

But he didn't say an honest word. He just lay back on the grass, watching for the quick sparkling light of an ugly's shuttle, halfway listening as Will gave a long lecture about their new neighbor and what the ugly would likely put inside his house. Will had his copy of the *Book* on hand. Like always. With enthusiasm and an expert's grace, he sorted through the tens of billions of pages, finding images of vast rooms decorated with alien artwork and mathematical pretties too complicated for them to enjoy.

Yet Will was thrilled by all of it.

"Someday," he kept promising, "this is how I'll live. In a few thousand years, out between the stars . . . this is my house. . . !"

"I'll have one too," Alex kept saying.

Because that's what he always said.

Eventually it was one in the morning, and after finishing a liter of warm pop, Will finally had to quit talking about weird luxuries and vast intelligence. "I need to make a pit stop," he announced, jumping up and starting to run. "Don't let anything happen while I'm gone."

Alex took a peek at the *Book*.

The book wasn't his best friend; he didn't carry his copy everywhere. Yet he knew it well enough to find what he wanted: Hyperclear images and long, poetic passages that described the thousands of worlds that the uglies, wandering across the Milky Way, had visited over many thousands of years.

When he went to Conestoga, then Idlewhite, Alex was a slow student on his best day, and a lousy one most of the time.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

He never gave a shit about space, or anything scientific.

Mom used to promise that everyone had a talent, and Alex was still just looking for his. "You're more of a doer than a reader," she liked to say "The same as your buddy Will. Hands-on people. You're the ones who make the world work."

She was trying to encourage him, sure. But no matter how she said it, the words made Alex sick inside. He wasn't too stupid to recognize the truth. He wasn't going to be a fancy mechanic, or a passable carpenter, or anything but a little man good at pushing brooms or working on someone's assembly line.

Then the uglies arrived.

Like most of the world, Alex was scared. But over the next days and weeks, as the visitors explained what they were and what they wanted to give humanity, he went from scared to piss-in-your-pants terrified.

Like it or not, the world was going to be rebuilt.

There would be new ways to travel, and build, and learn. Portable fusion reactors would give everyone their own sun, and robots as big as cities and as small as molecules would churn out any product you could dream up. And what was most spectacular was that this miracle future would come in a lifetime. As fast as their species could adapt, the uglies kept promising.

No more assembly lines.

Or brooms.

The future was an avalanche. And sometimes Alex found himself barely able to breathe, a crushing dread pressing on his panicking heart.

Will was always the optimistic one.

"The uglies know what they're doing," he promised. "Don't worry! They're rebuilding us, the same as they got rebuilt. Only less so. Since we're starting out on a higher rung."

"What if I don't want to be rebuilt?" Alex had to ask.

"Then you're an Amish kid, and you're free to say, 'No, thank you'" That strong, carefree face laughed at his nervousness. "We're all free. Uglies and us both. That's what it says on the very first page of their big book!"

Comforting words, sort of.

Mr. Nate embraced a different faith.

"These things are invaders!" he roared. "They might be smiling and spitting nice words. But they've come here to take control. That's what I think!"

"Nobody invited them," Mom piped in. "I know I didn't."

"Implants!" his stepdad growled. "Can you imagine? They'll stick these machines into our heads and change how we think. Which is the same as changing what we think, if anyone wants to ask me."

The implants were supposed to be years away. That's what the industrialized nations had decided, trying to slow the pace of the changes. But China had a different notion. With other backward nations, they demanded special considerations from the uglies, and within weeks, new factories in Beijing and Shanghai were growing the biochips and fake neurons by the trillions. Within six months, their children had jumped two grades in school. Give them another six months, it was feared, and the rest of the world would be left behind. Maybe forever. Which was why the uglies gave away their technologies in the first place.

According to Mr. Nate.

"Give the Yellow Horde what they want, and look at what happens. The uglies practically guarantee we'll do exactly what they want us to do."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Maybe so.

But the implants couldn't control what a person thought, or what he did. Human scientists knew enough to feel certain. Personalities would stay unchanged, they promised. For better, or for worse. The biochips did nothing but help the organic mind work better. Faster, and easier. Besides, if a person wanted, he could disable his implant easily enough. With a security code, or even an ordinary screwdriver.

An implant cost next to nothing.

Installation was easier than filling a cavity.

Even still, a lot of good smart parents didn't want their children having them. But others thought otherwise, and their kids suddenly did so well at school that most of the doubters had to change their minds or put their kids into special classes.

With his folks' blessing, Will got his implant on the first legal week—shaped like a teardrop and resembling polished turquoise. And before the end of the month, a kid who wouldn't pick up a magazine that didn't have naked girls in it was suddenly reading everything he could find. School texts. Fun books. And of course, he was swimming his way through the uglies' big history of themselves.

Mr. Nate didn't want to talk about it. Instead, he forced Mom to go to Alex's room by herself, telling him, "We don't want you to do it. Not yet." But her eyes didn't look certain about anything. Alex pointed out that he was sixteen and needed only one parent's approval, and his father almost always gave him everything that he wanted . . . and Mom straightened her back, gave a little gasp, then quietly told him, "Okay. But I'm not going with you to the doctor's. If that's what you're going to do. . . ."

Alex chose a flesh-colored implant. Smooth, and hard to see.

Mr. Nate spotted it anyway, and that started a week-long tantrum.

But like any bad weather, the storm eventually passed. And afterward, the world seemed bright and scrubbed, and lovely.

Alex adored his implant.

A kid who used to be slow, even stupid, suddenly found that learning was as easy as drinking, and nearly as fun.

It was the same for his classmates, too.

That's why most of the schools eventually closed. If learning Spanish was as easy as learning to ride a bike, then teachers didn't need buildings around them. It was cheaper to have your teacher meet with you once or twice a week, just to check on your progress. And someday, when even better implants were available, learning would be the same as breathing: Natural, and unconscious, and important to you for every waking moment of your life.

Alex was staring at a beautiful picture of some alien volcano, tall and capped with both ice and smoke; and he was wondering how smart he would get in the next few years . . . and a big hand clamped down on his shoulder, shaking him as Will sat next to him again, saying, "Listen. Hear the silence? I think the work's all done."

The yard looked out over the school's playground. Maybe fifty neighbors and their friends were sitting on their back porches and under the trees, keeping watch. Will's folks included. It seemed as if only Mr. Nate and Mom were asleep. But how could anyone sleep tonight? Even his stepfather had to be a tiny bit curious. . . .

There was a quiet murmur, like a wind.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

A small shuttle was dropping with a weightless grace. But it wasn't heading for the school, Alex realized. Instead, it set down at the farthest end of the playground, in the middle of the softball diamond. A few bits of gravel were scattered as it settled; Alex heard nothing but the soft dry *tick* of rock striking rock. The shuttle wasn't the usual diamond-shape. Instead, it resembled an axe blade, black as if it was made from polished obsidian, the sharp end pointed skyward, its hull bright in the street lamps and the blackness nearly perfect. A door blossomed near the bottom, and their new neighbor stepped down, visible as a glowing, ill-defined shape that seemed to pause for a moment, then began to walk.

He wasn't moving straight for the school. Instead, he was following the little asphalt walking trail that bordered on the various backyards.

"Why's he doing that?" Alex asked.

Then he realized why.

"To let us see him," he added. "I bet so."

Will didn't make any sound. A numbing awe had taken hold of him, his expression spellbound, his back straight and shoulders squared as he gazed at the creature.

At the ugly.

That wasn't their name for themselves, of course. And Alex suddenly felt ashamed for ever using the word. "Ugly" was rude, and worse, untrue. To him, the creature striding toward them was nothing but handsome. A tall strong humanoid frame. A wealth of dark body hair, mostly hidden by what could only be described as a gown. Like a wedding gown, sort of. All of them dressed that way. This was a greenish gown made from some lightweight fabric that glowed in the darkness, swirling and swishing as the long hairy legs carried him along the little trail.

The face was what seemed ugly.

Brutish, almost. Even with the fat clusters of implants that clung to the back of his skull, he looked simple. Stupid, even. There was no forehead worth mentioning, or a chin, and the rest of the face had a gruesome, almost human quality.

An intelligent squid, or jellyfish, or even some educated slime mold would have their own otherworldly beauty.

Even roaches possessed a beautiful durability.

But here was a creature with a recognizable face, his skin yellow-brown and his thick scalp hair black and something about the dark eyes and the wide mouth reminding Alex of a chimpanzee.

Those eyes gazed straight at Alex, and Will.

A voice born from a mechanical larynx said, "Hello to you. And thank you, both of you, for welcoming me."

As if that's what they were doing here.

Normally the extrovert, Will suddenly couldn't find his voice. Against all the odds, here walked a visitor—one of those ugly brilliant creatures who were transforming the world and the two of them—yet the grateful, worshipful human couldn't do any better than to gasp under his breath. In despair.

It was Alex who spoke, surprising himself.

With a quick, clumsy voice, he called out, "It was a real nice school!"

The ugly smiled, white teeth reflecting the gown's chalky green glow. And he seemed to nod in an appreciative way. Then he was past them, and gone, and Alex felt his heart pounding and his open mouth turning dry.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Suddenly self-conscious, Alex glanced over his shoulder. Someone was standing at the back window of his house. She was hiding in the darkened living room. His mother was. Wearing her old bathrobe and cradling a mug of coffee, secretly watching as the magnificent ugly strolled past.

But "ugly" wasn't his name.

He was a cousin of theirs.

A *Homo erectus,* of course.

Like Alex, there walked a genuine and noble species of Man.

People always assumed that when visitors came from the sky, they would be utterly alien, their minds strange and their culture bizarre and their eerie flesh unlike anything to be found on this little world.

What a surprise—the truth usually is.

From the vicinity of Neptune, the uglies sent warnings of their impending arrival. A string of comforting words and tailored images slowly and carefully explained their origins. No, they admitted, they were not extraterrestrials. They were an earthborn species whose forefathers had lived on the plains on Africa and the forests of Java and on the dusty steppes of Russia. Hundreds of thousands of years ago, a research vessel had passed through the solar system, making measurements and stealing what wouldn't be missed. The tiny bands of human beings never noticed the scientists among them. But machines pretending to be mosquitoes stole away some of their blood and flesh, and their genetics. Centuries later, somewhere between the stars, the researchers built elaborate enclosures and cloned *Homo erectus* by the thousands. At first, they were specimens for study. Then they were favorite pets. Then, helpers. And finally, after being modified by a thousand means, they became fully sentient organisms—very nearly the equal of their great benefactors.

"We descended from those little drops of blood," the visitors explained, fluent in every major language. "And after thousands of centuries of wandering the galaxy, we have come home again. Hello to you, our cousins. Hello!"

That's when they finally they showed the world their faces.

Anthropologists immediately recognized them. Stripped of their elegant gowns and the assorted implants, these were very much the same creatures who once roamed across three continents, using stone tools and taming fire for the first time. This was the Earth's smartest, most successful human for nearly two million years. Next to them, *Homo sapiens* seemed like arrogant, upstart children.

The enormous barrel-shaped starship—a gift from their unnamed benefactors—fell into a distant orbit.

With a thick sense of symbolism, one of their large diamond-shaped shuttles set down in the Rift Valley, several dozen grinning delegates stepping out into the tropical sun, then kneeling, pursed lips kissing their ancestral homeland.

World leaders and the press as well as a few politically connected scientists, had converged on the spot.

It was the President who, seeing the visitors up close, had the poor taste to remark, "There's some real uglies standing there."

He was overheard, and endlessly quoted.

But the newcomers seemed untroubled by insults. Their apparent leader said a few words again and again, in twenty tongues. "We come here as grateful cousins, and as friends," he pledged. Then the visitors broke up into

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

groups of two, inviting questions from everyone and understanding every language with a numbing ease.

One biologist pointed out, "You've been gone for a lot of years. You say. Traveling in space, exploring alien worlds . . ."

"Yes," said one of the tall delegates, her artificial voice rich as an opera singer's and perhaps a little impatient. "You have a question, sir?"

"What about genetic drift?" the biologist wondered. "What about the selection pressures of space flight? I mean, you look pretty much unchanged. Unmodified. And that isn't what I would have expected . . . if I ever expected you, that is . . ."

"Yes," the delegate repeated. Then as she glanced at the television cameras, she added, "Our onboard environment is quite earthlike, you see. And our basic flesh and bone are comfortably familiar. There's never been any compelling reason to change our essential shapes."

The biologist nodded, muttering, "I see . . ."

"Besides," she continued. "A year has many meanings. We have been traveling at relativistic speeds. And as you will learn, we have improved ourselves physically. These good bodies of ours are slow to age and nearly impossible to kill."

"How old are you?" asked one prime minister.

An Egyptian, by chance.

And with an obvious human pride, the ugly woman smiled, remarking, "I was born before your little pyramids were even dreamed of."

That brought an awestruck silence.

The cousin calmly smiled at the cameras, her big white teeth flashing in the sunshine. Then she stepped up to the prime minister, practically towering over the flustered man. "But before we give you that gift," she added, "we must first teach you how to think."

"How to think?" the poor man whispered.

"Better than you think today, at least." Then she held a smooth brown hand against the man's sweat-drenched temple. "But you have the good beginnings of a mind, my young friend. The very best beginnings."

The invitation was in the next day's mail.

Handwritten on what resembled good parchment, it read, "Come visit me this evening. Come at dusk. Bring nothing but yourselves. There will be refreshments in abundance."

Then, "Your new neighbor, and hopefully your new friend." And with an artful cursive script, he had written, "Sunlick."

"What kind of name's that?" asked Mr. Nate.

But before Alex could answer, the old man shook his head, promising, "There's no way in hell that I'm going there!"

A nervous silence descended.

Mom swallowed, then quietly remarked, "It's an invitation. Not an order."

"Meaning?"

"If we don't want to go, we won't go."

Mr. Nate rolled his eyes, then threw a searing look at Alex. "I suppose you'll be galloping down there to meet old Sunspot. Won't you?"

"Sunlick," he corrected.

"And I know perfectly well what I'm saying. Okay?"

Alex returned the stare, admitting, "Yeah, Will and I are going to go see him." In another couple hours, and counting. "We've already made our plans."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"And if I say otherwise?"

The boy didn't let himself blink. He did something even worse. He suddenly glanced at his mother, trying to enlist her help.

But Mom just bowed her head for a moment, and sighed.

Then Mr. Nate gave a little laugh. Bitter, and dark. And pushing away from the kitchen table, he repeated Mom's own words.

"But you're right," he said. "It's an invitation."

Mom lifted her head, not quite looking at either of them. "What do you mean?"

"If a man wants, he should go meet our new neighbor. He really should."

And Mr. Nate almost giggled to himself, walking now. Marching through the front door, and gone. Vanishing in the direction of Mrs. Bernstein's house.

The Book of All was free for the taking.

The volumes came in every useful size, most of them resembling books. The covers weren't quite leather, and the pages were thick and few. Or thick and endless. The first page helped the reader find whatever topic interested him, and if he wasn't sure what he wanted, the page asked simple questions, then offered informed recommendations.

Alex got his copy at the post office.

Sitting on the floor of his room, he opened to the first page and answered questions about what he liked to do in his own time. Then he started to drink in the beautiful images of faraway worlds and moons. When Mom called him to dinner, he didn't notice. Then Mr. Nate came into his room, without knocking, and he announced, "You know what I think. So I won't say it again."

The Book was just another one of the uglies' tricks. That's what the old man believed. It was nothing but another means of conquering the world.

Alex was reading about a giant sunless world. The world was warm and brightly lit because some vanished species had reconfigured its moon, making it into an artificial sun, and life had taken hold. The uglies lingered for barely twenty years. Yet there were miles of written text summarizing their studies and their conclusions. There were thousands of images rendered in perfect, eerie colors. On the land, the natives were squat and powerful, and beautiful. In the seas, there were what looked very much like earthly squids and fish. Except the squidish aliens had evolved a kind of low intelligence, and simple technologies. Alex found them strange and fascinating. But what was stranger than any distant world was the fact that Alex was sprawled out on his own dirty floor, reading oceans of words, his new implant helping keep track of important facts and fun facts, this great tangle of knowledge actually making perfect sense to him.

And that in a stupid boy.

He could have gone without dinner; that's how wondrous it all was.

And he could have obeyed his stepfather.

"You get up and come to dinner now, young man!"

But Mr. Nate was stupid, and the old man never cared about anything important. Which was why Alex looked up at him, surprising both of them when he explained, "They took samples on this world. A lot of samples."

"What? What are you talking about?"

"Here," Alex replied, changing the page by touching its right top corner. Then he spun the book around, showing him the hundred-thousand-year-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

old image of a squid-like creature brandishing a long coral spine. "The visitors took their blood for study. And I'm trying to figure out if they cloned them, and improved them . . . like they're doing with us. . . ."

If Alex had said, "No, I don't want any dinner," there would have been a fight.

But Mr. Nate didn't expect this kind of noise. This didn't sound like anything the real Alex would have said.

Shaking his head, Mr. Nate simply turned and left.

A little while later—in a few minutes, or perhaps an hour—Mom knocked softly and slipped into his room, saying nothing. She kept one hand on the door, as if to maintain her balance. And after watching her son's rapt concentration, she summoned the breath to ask, "What is so terribly interesting, honey?"

"Everything," Alex whispered. "Everything."

Before the sun had so much as kissed the horizon, Will was pleading, "It's time. It's time. Let's get going, come on!"

Alex had to wonder, "Aren't we a little early?"

"Which makes us first! Come on now!"

Except they weren't first. They jumped the fence behind Will's house and jogged along the asphalt trail. But a young couple were already pushing a stroller along the walk, and beyond them were half a dozen college-aged kids talking fast among themselves, and waiting up by the swings and slides were several of the local news crews—scruffy-faced men pointing cameras at pretty women and prettier men. Plus several police officers were standing near the monkey bars, wearing dress uniforms and headsets and microphones.

"There's not supposed to be any coverage," Will explained. "At least, that's what they're saying on the Web. The uglies' diplomats asked the President to respect Sunlick's privacy, and the President's been talking to the networks . . . I thought . . ."

But those young reporters want big careers, Alex realized.

Saying nothing.

Still jogging, they easily caught up with the young couple. Husband and wife wore matching gold-embossed implants, and Alex noticed that their two-year-old toddler wore an ugly-style gown, one little pink hand shielding his eyes from the setting sun.

The reporters motioned, asking everyone to share a few words.

"Come on!" said Will, seeing his chance to get in the lead.

Almost sprinting, they slipped past the college kids. The school's pavement and brick walls and the big doors looked exactly as Alex remembered them. But the doors were propped open, and a warm inviting light spilled out onto the concrete sidewalk. For an instant, Alex was thrilled. He couldn't believe his sweet good fortune. Then some paranoid voice inside him started to scream, and he hesitated for a strange little moment. Just long enough to make Will bark, "What the hell's wrong?"

"Nothing," Alex squeaked.

"Then let's go!"

Together, they stepped inside.

What both of them expected was a miraculous home. Their cousins—the great old uglies—could do astonishing tricks with matter and light. Which was why they were stunned, and puzzled, and then a little bit angry to find

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

themselves standing inside an enormous but otherwise completely ordinary living room.

Alex saw lumpy sofas.

Wooden and wicker coffee tables.

Beige carpeting and brass lamps and distant walls decorated with ordinary Earthly pictures inside ordinary wood frames.

A rich voice told them, "Welcome!"

The ugly was sitting on a pale green recliner. He was still wearing his green gown. He had what looked like a fizzy soft drink in his hand, and he rose and smiled at both of them, then at the young couple who followed them inside. "I am Sunlick, yes," he said. "Please. Help yourselves to the refreshments." Then he kept on smiling, nothing about his expression looking particularly friendly.

Or unfriendly, either.

Will swallowed, then said, "My name's . . . Will Eaves. . . !"

The ugly opened his chimp eyes a little wider, and in a careful way, he said, "Yes. Hello to you, Mr. Eaves."

"And this is my friend, Alex—"

"Make yourselves at home," the ugly told everyone.

Then the college kids came charging inside, first blinking in surprise, and giggling, each of them eventually staring at their peculiar host. It was as if everyone was embarrassed, or maybe nobody knew how to act. And Sunlick seemed more uncomfortable than anyone. Using that deep voice, he kept saying, "Help yourselves to the refreshments."

A line of tall refrigerators waited against the nearest wall.

Alex thought of opening one of them. Maybe he could find a cold beer, and what with the circumstances, nobody would mind.

But Will put a hand on him when he tried to move, calling out, "Thank you, Mr. Sunlick. For inviting us."

A creature wiser than any of them, and older than every human civilization, gave a little nod and advised everyone, "Relax. Please."

That's what Alex was trying to do.

But an instant later, just as he got his breathing back under control, he heard the sound of voices chanting in a clumsy angry fashion. The voices were outside, he realized. Cocking his head, he could just make out the words.

"Go away!" he heard.

"We don't want you here!" he heard.

Then one voice rose above the others, infused with an incandescent fury, and Alex knew it instantly. Even at a distance and muted by the brick walls, he heard Mr. Nate, the old man shouting to the sky, "Uglies! Leave us alone!"

Then, "You damned ape-assed bastards!"

The embarrassment was thick and sudden. Guests clenched their fists and traded wary, wide-eyed looks. Except for Alex, who simply stared at the carpeted floor, wishing that the universe would let him disappear now.

Only their host seemed unperturbed by the demonstrators outside, the big hands clapping once, then again, louder, as he strode easily to the opened doors.

Against all expectations, Sunlick called out, "Yes, hello! Welcome! Please now, come in and join us! All of you!"

Alex couldn't hear the response.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Then again, the ugly said, "Join us," and opening his arms, he added, "I promise you. You will very much enjoy what I have to say."

What was that?

Sunlick passed near enough that Alex felt the green gown brushing against his leg, soft as a breath, and for a brief moment, he smelled a sweet cologne.

"Yes, yes. Thank you. Be with us, please."

"Oh, shit," Will muttered.

Alex looked up. There were five demonstrators, including Mrs. Bernstein and Mr. Nate. With Mom trailing behind at a safe distance. Alex stared at her until she had no choice but to notice him, and she blinked and crossed her arms, leaning against one of the tall refrigerators, then mouthing, "I'm sorry," with a miserable expression.

Alex gave a little moan.

The demonstrators were Mr. Nate's age, or older. Two of them held up a hand-painted sign proclaiming in red spray paint, "Go back to the stars!"

The ugly stood nearby, hands on hips, calmly reading the sign aloud.

Then to his astonished audience, Sunlick said, "I agree with you. That is exactly what we should do, yes."

Nobody spoke, or breathed.

The ugly laughed for a moment. Then he asked, "Could everyone walk toward me? We have more guests."

The cameras and reporters were pushing through the doorway, and following them were perhaps another three dozen invited neighbors and their various friends.

"God," barked Mr. Nate. "This place looks like a damned furniture store."

A few of the guests laughed.

Sunlick laughed, too. Why, Alex couldn't guess. And with an easy grace, their host stood on the nearest coffee table, announcing to the world, "I have come here to explain. To teach. To help you see with my own eyes."

"See what?" Mr. Nate grumbled.

"What none of my brothers and sisters will show you." The rich voice left the air ringing like a bell. The familiar leather-bound volume suddenly fell from the ceiling, dropping neatly into the ugly's opened hands, and opening it, he asked, "Who found my species? My Earth? What does *The Book* tell you?"

"Alien researchers," someone blurted.

Will did.

"No," the ugly replied. "You are completely wrong."

As if physically struck, Will jerked and turned pale.

"But I don't blame you," the ugly continued. "That is the natural conclusion. The simplest, easiest conclusion. Believe me, you are thinking exactly as we expected. That portion of our long great history was written with the intention of gently, but thoroughly, misleading all of you."

"What's true?" Alex whispered.

Two or three other people asked the same question, only louder.

But Sunlick didn't want to answer them yet. Instead, he warned, "There are other gaps in *The Book of All*. You deserve to know. We describe our journeys around the galaxy, yes. But have you noticed? The creatures we find are never smarter than ourselves. Which must lead some of you to ask, 'Are the uglies the most intelligent creatures in the universe?'"

He laughed. A self-deprecating, practiced laugh. And a little forced. Then

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

he answered his own question. "We are fools," he told them. "Compared to what's possible, we are stupid creatures." A momentary pause. Then, "You must understand. Intelligence is always born near suns, usually deep inside large galaxies. But galaxies are hot realms, and dangerous. Truly gifted minds prefer to work in the coldest regions of space. They want the benefits of superconducting neurons, and they demand enormous spans of uninterrupted time in which to accomplish their great, unfathomable thoughts.

"Once life reaches such a lofty status, it never returns to its birthplace.

"Never."

He shook his head, adding, "We decided to spare your feelings. The simple truth is that alien researchers would never care enough to clone your ancestors, much less improve their minds and bodies. Only someone who evolved on this obscure rusted rock would take the trouble to help one of their own cousins."

Sunlick paused, just for an instant.

Then he told an unexpected, baffling truth.

"You know the species who gave us a helpful hand," he proclaimed. "They were our ancestors. Our mutual cousins. *Homo habilis*." And with respect and amusement, he held out a hand at waist-level, adding, "Hairy little monkey men, they were. They were."

The rest of the fantastic story came in a quick, well-rehearsed flood.

A billion years ago, intelligent species began to evolve, and each of them slowly and thoroughly explored the Milky Way before leaving it behind. Later, one of those ancient species tinkered with samples of primitive Earthly life. Perhaps to measure how they might evolve. Perhaps out of curiosity. Either way, the original benefactors produced an intelligent and virtually immortal organism from Cambrian trilobite stocks, and once the trilobites had voices and minds, they decided, for every imaginable reason, to journey home again.

They reached the Earth during the Permian, and feeling kindly toward their distant cousins, they chose a species of primitive mammal, then strapped on various implants and the beginnings of a culture.

For several million years, that new species wandered the galaxy in its own starship. Then it returned to the Earth, found dinosaurs waiting, and bestowed its gifts on one of those lucky species.

A tradition was born.

At shorter and shorter cycles, distant relatives and close cousins have returned home. A likely native is made into a spacefaring creature, and the kindly benefactors are then free to leave the Milky Way, making the long voyage out into the black cold realms where godly minds think godly thoughts from now until the end of All.

It was the Earth's tradition, the ugly explained.

"A noble tradition," he assured everyone, his toothy white smile diminishing now. Then with a disgusted shake of his head, he added, "Until now."

Perhaps a hundred neighbors and their friends, plus the news crews, stood near the open doorway. No one spoke. Indeed, even with the implants helping their minds work, this rain of odd and unexpected concepts seemed to leave everyone puzzled, and suspicious, and, in some cases, saddened.

Will looked sad.

He made a low, angry sound. Then he shouted, "Why are you here? What do you want us to do?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"I am here," Sunlick replied, "because I disagree with my brothers. And alone, I am here to offer you another course to the stars."

Silence.

The ugly tried to smile, but perhaps he sensed the shifting mood. Then with a stiff slow certain voice, he told everyone, "What you should do is remove your implants. Remove them and destroy them, and live without them." He dropped *The Book* on the floor, with a hard slap. Then reaching for the ceiling, he promised, "You will be with us soon enough. Soon enough. On your own legs, you will rise up *there*."

The silence was nervous.

Was confused.

Then Will took a big step forward, telling the ugly, "I'm not going to! I don't care what you say, you aren't going to make me—!"

Mr. Nate stepped in front of him, saying, "Now wait! Listen to the man—!"

Will's face was red, eyes wild and veins standing thick on his neck. With one hand, he seized Mr. Nate by the arm and hung on to him, shouting, "You shitty old bigot! You're not saying one word to me!"

"Let go of me!" Mr. Nate roared. Then with his free hand, he slapped the boy hard in the mouth.

Will gave the old man a quick shove, making him stumble.

A calm, inadequate voice called out, "Please."

It was the ugly. He was still standing on the coffee table, long arms outstretched, adding with a pissed-off tone, "Gentlemen, let me remind you . . . this is my house—"

Mr. Nate was angrier than Alex had ever seen him. He jumped up, his skin taut and pink, his hands shaking until he pulled them into fists. For a brief moment, he stared at his own fists. Then he made his decision, opening one hand and reaching up with an amazing speed, grabbing at the turquoise implant on the back of Will's head.

It couldn't be removed. Not with just a bare hand, no. But Will screamed, "No!" and gave the old man a brutal shove.

Mr. Nate tumbled backward.

Alex leaped at his friend, grabbing him by the arm and neck, hanging on as he pleaded in a low breathless voice, "No, stop. No."

The two boys wrestled for a few moments.

Then just as Alex was about to be thrown to the floor, a woman's voice called out, asking, "A doctor . . . is anyone . . . a doctor. . . !?"

It was Mom's voice.

Alex let himself fall away. Onto the carpeted floor with a jarring thud. He knew exactly what had happened. Mr. Nate had finally blown a blood vessel. That's what it had to be. And it surprised him to discover that he was sick about it, and sad, and he climbed back on his feet trying to decide what he should say to his poor mother.

But there stood Mr. Nate, looking fit, and more than anything, embarrassed.

Lying beside him, flat on her back, was Mrs. Bernstein. Mom had knelt on the other side of the old woman, holding one of the pasty hands with both of hers, fingers trying to find any trace of a pulse.

"She just collapsed," someone explained.

"All the excitement," another person guessed.

Mom shouted, "We need a doctor here!"

But they didn't. Alex knew it instantly. He took a deep breath, then

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

turned toward Sunlick, and with a knowing voice, he said, "You can save her. You don't go anywhere without a fleet of tiny doctors. . . !"

The ugly said nothing.

Everyone in the room turned to look at their host, watching as the dark eyes gradually lost their focus. Then the mechanical voice spoke to them with a calm, almost chilly voice, telling his audience, "You haven't been listening to me. I don't believe in interference. I don't wish to invade your lives in any way!"

Alex couldn't believe what he'd heard.

Neither could Will. He stared at the ugly with a kind of dumbfounded disgust, doing nothing. Alex's big strong handsome friend looked helpless. Which was why Alex picked up *The Book of All,* then with an airy grunt, flung it up at their host, striking the ugly just beneath his arrogant, unfinished chin.

To his credit, Sunlick sent condolences to Mrs. Bernstein's family, then had the good sense not to attend the funeral.

For an unpopular woman, she enjoyed a huge turnout. Strangers who had watched her die on television felt moved to pay respects. And despite his own dark feelings, Mr. Nate insisted that they should go to the synagogue. Sitting in back, of course.

The ugly lived in the school for another week.

To Alex's knowledge, no one visited him—despite the fact that he left the doors open night and day. Occasionally, Sunlick would stroll around the playground. But nobody wanted anything to do with him. Even little kids abandoned their games of the moment, retreating before he could get within earshot.

The ugly left without warning, slipping off in the middle of the night.

That next day, Alex walked down to the abandoned school.

The doors were closed, but unlocked. He slipped inside, triggering a thousand lamps. The vast room was unchanged. Like a giant furniture store, just as Mr. Nate had said. But when Alex carefully looked at the pictures on the walls, he noticed that they were anything but simple. There was an image of pyramids, for instance. When he touched the image, the room behind him turned to sand and brilliant sunshine, and the Great Pyramid at Giza was summoned out of nothingness, towering over him with a mass and magnificence that made his heart gallop.

The school was his species' own *Book of All,* Alex realized.

For a little while, he marveled at the folsom points and the Mona Lisa and a towering Saturn V rocket leaping off its launch pad. Then, following a whim, he painstakingly dug into the *Book's* depths, looking for something that surely didn't exist now, and probably never would. Yet amazingly, Alex found his own entry waiting for him. His name. His Glenwood address. He was already inside the human *Book of All!* With the touch of a finger, Alex watched as he knocked the ugly off his feet again. Cold-cocking the prophet. And according to a thousand attached polls and surveys and editorial opinions, that single rebellious act had effectively squashed the ugly's careful plan.

Out of reflex, Alex touched his implant.

Feeling proud, and sorry. A little bit.

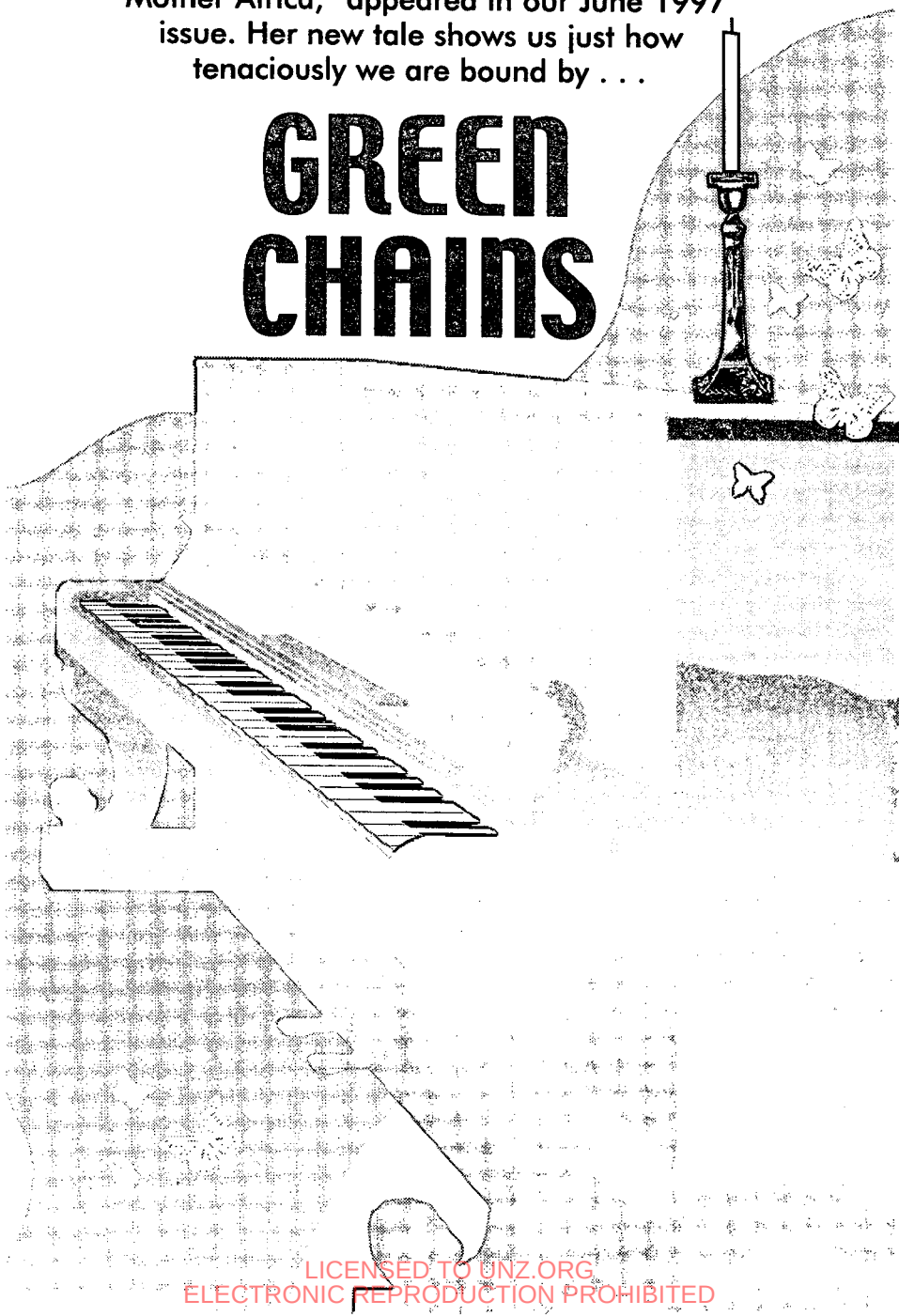
But mostly, he was amazed. The only famous thing that he might ever do in his life, he was thinking . . . and it came not from genius, but from something older, and simpler . . . and in every way, something that was entirely *his*. . . . O

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Deborah Wheeler

Deborah Wheeler's last story for us, "Mother Africa," appeared in our June 1997 issue. Her new tale shows us just how tenaciously we are bound by . . .

GREEN CHAINS



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Time held me green and dying
Though I sang in my chains like the sea."
—Dylan Thomas, "Fern Hill"

That morning, Moselle had gone walking through the Saugus hills. It was early enough that pockets of dew still lingered in the shadows. In a few hours, however, the late summer heat would rise in waves and burn them all away. She reached the road, moving with an easy, hip-swinging stride, thumbs hooked in her belt loops. Crescents of sweat darkened her tank top below her breasts; the waistband of her jeans was already damp. Chicago-bred, she was still nervous about walking barelegged in rattlesnake country. She'd come to Southern California shortly after her marriage and still lived in the house that she and Lewis built together. Now she paused just inside the door, caught by the familiar sensation of airlessness.

As if on cue, the phone rang. Moselle went to her desk, a door placed across two two-drawer metal filing cabinets, and cradled the phone between her shoulder and one ear.

"Hello?"

"It's me, Sadie."

Moselle had tuned Sadie's piano for years before they realized they'd become friends. Sadie, the art director for a small recording company in the San Fernando Valley, played long cool jazz into the evenings.

Now, Moselle heard the shift in Sadie's voice, as if her friend had just changed to a minor key. "What's wrong?"

Sadie said, with a quick, indrawn breath, "My mother died Tuesday. I took her in for a CAT scan of that shadow that showed up on her last chest X-ray. She went into cardiac arrest right there in the imaging center."

CAR-di-AC ar-REST. Moselle heard the words as a rhythm exercise.

Tuesday . . . three days ago. The sweat on Moselle's arms turned cold, as if it carried the memory of the December morning her own mother died. "Having lost a long and gallant battle with breast cancer," her aunts said, quoting the newspaper obituary as an incantation against their own advancing years. Now, ten years and two thousand miles away, Moselle could still smell the gray Chicago sky. Her father had died when she was too young to remember him. Sometimes the loss of her mother was the defining experience of her life.

"There's a memorial reception Sunday at her condo," Sadie said. "We're having it there because so many of her friends live in the complex. It's hard for them to travel."

Moselle lowered herself into the desk chair. "Are—are you all right?"

"It's better this way. She was eighty, you know, and didn't want extraordinary measures taken."

Extraordinary measures. Rhythms like the beating of a human heart.

"I met her only once, that time we went to visit, but I don't think she was the kind of person who would want to linger on," Moselle's voice said. Something within her stirred, inarticulate, almost passionate. "You know, when my mother died, I was the one who pulled everything together. I made all the arrangements . . ."

—the smell of the mortician's office, the waxy perfect petals, the way his mouth curled up at only one corner—

". . . the phone calls, the newspapers, the lawyers . . ."

—sitting alone at the piano in the empty house, fingers on the keys, re-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

membering the touch of her mother's hands resting on top of her own, closing her eyes and playing the opening movement of "Für Elise" over and over—

". . . and then when it was all over," Moselle finished, "I just fell apart." It was the wrong thing to say, telling Sadie the same thing was going to happen to her. "What can I do to help?" she said too quickly.

"Oh, really . . . if you want any of her furniture. It's all good quality. She had what's called impeccable taste. I don't have room for it here, so I'll just have to give it to Goodwill. And come, if you can, on Sunday."

Moselle penciled the date and time in her appointment book. She wrote everything in pencil, erasable. "I'll be there."

She let the receiver down on the cradle and rubbed her arms. Her skin felt warm and damp. She went over to her mother's piano. It was a Kimball upright with a cherry finish and a deep scratch across the top. Moselle had no idea where the scratch came from. Her mother was always so particular about the piano. She never let anyone put pencils or sheet music on top of it, nothing but a starched linen runner and two bayberry candles that she never lit.

Moselle filed a claim with the furniture movers, but their records showed it had been damaged when they picked it up in Chicago. Now she ran her fingers over the scratch, wondering the same old questions. All the years of music had left no visible trace and yet this moment of carelessness remained, indelible, another thing she would never know about her mother.

In between winter weekends at Mammoth, Lewis used to stack his skis beside the piano. Moselle had worried about them falling on the piano, although they never did. Now she tried to imagine one of Sadie's mother's overstuffed chairs, the fabric textured like oatmeal and straw, filling the space. She realized she'd left it empty deliberately, like a reflection of the Lewis-sized hole in her heart.

Lewis had been a mistake, she knew that now, an attempt to ease an even deeper loss. She'd realized that on the very day she and Sadie had gone to visit Sadie's mother in Dana Point. They'd gone walking along the private beach behind the gated retirement complex.

It had been March, the sky a chalky Chicago gray. Lewis hadn't left her yet, but that walk on the beach was when Moselle realized that she wanted him to, needed him to. She could put her finger on the exact moment she knew her marriage was truly over, could still feel the sand between her toes and the smear of beach tar on one heel. She'd been telling Sadie how unattractive Lewis made her feel, her nose too long, her body too thin, her breasts too pendulous, her hair too mousy. Everything *too* this or *not enough* that.

"I think you're beautiful," Sadie said. "I think you deserve to be loved."

It had all come clear in that moment, that no matter what Lewis said, he didn't make her feel loved. Maybe he couldn't, maybe no one could. Not as long as the sense of absence echoed like an unending coda through her life.

That Sunday, Moselle dressed with particular care, although in California people wore whatever they liked to funerals. She chose a skirt in wine-colored silk, a white blouse, and a necklace of antiqued silver filigree and onyx. At the back of a dresser drawer, she found the straw box in which her mother had once kept the love letters from her early marriage. Moselle had never read them; her mother burned them the night her father died. In the box was a scarf, silk with handpainted butterflies. It had once had sequins,

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

but Moselle had picked them off when she was a child. Her mother had been angry at the time; the scarf was an expensive one and the fabric had torn where Moselle pulled the threads.

She placed each element on her body as if it were a flower in a Japanese arrangement, each symbolizing something profound and mysterious. When she was done, she studied the effect in the bathroom half-mirror as if she could find the answer in her own reflection.

A grimy film covered Moselle's battered Toyota pickup. Lewis had bought it for her and she'd chosen the color, Desert Sand, thinking the dust wouldn't show, but it always did. She rolled the window down before she got in. The plastic upholstery felt sticky, half-melted.

The air smelled of madrone and sage. Cicadas whined from the field beyond her neighbor's house. Heat lay sullen and brooding over the hills. By noon, it would hurt to breathe.

Sadie's mother had lived in a private beach community with a white-iron gate and speed bumps like giant anacondas stretched out beneath a carpet of asphalt. The guard, a leather-lean older man, showed his teeth in Moselle's direction without actually looking at her and said he couldn't find her name on the guest list. Cars piled up behind her. Someone honked.

"You'll have to wait on the side while I let this lot through," the guard said.

Moselle set her lips together and took a firmer hold of the steering wheel. If she'd been driving a Beemer instead of her pickup, he'd have let her pass without a question.

Memory flooded up in her, that last piano audition while she was still living at home. She'd stood in the wings, waiting for her turn. Her hands trembled, just as they did now. She remembered the ice-edged moment when she realized that no matter how hard she tried, she simply wasn't good enough to make it as a solo pianist.

After a few minutes, the guard hung up his phone and said everything was cleared. Moselle was still shaking when she parked the car in the visitors' lot.

Although Moselle had visited the apartment before, that day they'd gone walking on the beach, what struck her now was the sharpness of its edges. She thought there must be metal strips like bones beneath the paint, protecting the dry-wall from accidental bumps and knocks. Or maybe there had never been any grubby-handed, baseball bat-wielding children. She smiled at herself, remembering how she used to gallop down the hallway that stretched the length of her family's apartment.

Huge baskets of white and pale yellow flowers, calla lilies and rosebuds set in masses of baby'sbreath, lined the front wall. They were perfect and scentless. Moselle imagined some florist paring away the browned edges from the petals. There were other things you couldn't discard that easily. They persisted just beyond the edge of your vision, festering, fermenting, until they stole part of your life and took it for their own.

On the mantelpiece sat a row of photographs in silver frames, an old couple, stiffly posed, a man in a Navy uniform and beautiful young woman in 1940s dress, the same woman holding a baby, Sadie's high school graduation picture, her hair sprayed and teased into geometric perfection. There were a few pictures of the Naval officer, older. Sadie's parents had divorced

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

amicably when she was in college and her father lived, unremarried, in Florida.

The apartment filled with people, a patchwork of white hair, rounded backs, navy dresses with tiny polka dots, hands clutching canes and walkers. Two chairs, upholstered in oatmeal-straw fabric, had been drawn up as if for polite conversation. A white-coated nurse's aide lowered an old man into one of the chairs. Food had been laid out on the dining room table, cold sliced ham and cheese, olives and crackers, and a huge mound of strawberries and melon balls studded with plastic toothpicks.

Mixed with the aroma of the strawberries and ham came memories of other smells, pickled herring and lox, chopped chicken livers, poppy seed bagels, the faint greasy odor of *schmaltz.* The feast was Aunt Esther's doing. Moselle wondered if there weren't some universal principle that called for an abundance of indigestible food following almost any tragedy.

One of the men, a pastor of some inoffensive denomination, gave a brief eulogy. Moselle listened for a few minutes until she was sure he'd never met Sadie's mother. She found Sadie in the kitchen, wrestling ice cubes out of their trays. "Here, let me. You shouldn't be doing this."

"What should I do, then? Go out and sit with my mother's friends? Watch them wondering who will be the next to go?" Sadie looked up. Moselle saw the tracery of veins in her eyes, the fine reddening around her nostrils.

Another presence, which had always been there, just out of reach, leaned ever closer now.

"Let them say all the things they need to say," Moselle heard herself say. "Let them pretend they can take the love they felt for the friend they have lost and pour it into you, her daughter." She put her hands on Sadie's shoulders, felt the muscles knotted tight. "I'll take care of this."

Sadie left a little eddy of silence behind in the kitchen. Moselle took a shuddering breath. What she'd said about the mourners was right, but she didn't know how she knew it. It was as if, for a moment, she had seen them through different, older eyes.

After she'd gotten the ice cubes into the insulated buckets, Moselle went to stand at the kitchen door. She watched Sadie move through the room, stopping at each person. Hands gone big-knuckled with arthritis reached out to touch her. Moselle knew how they would feel, the dry skin, those fingers with their thickened, yellowed nails, the way they would linger for the extra half-second.

Again her eyes stung and she didn't know who she was thinking about. Aunt Esther and Uncle Sol and all the cousins, some she'd never met before, each of them holding a secret memory, each remembering a different woman—

—the fingers, resting on hers like sun-warmed petals, coaxing sweetness from the yellowed ivory—

—creeping down the hall to crouch unseen behind the big chair, listening, her toes curled into knots of pleasure—

—the lights turned low and soft on her mother's cheeks, the dark hair no longer sleeked back into a bun but misted like an angel's, the head bent forward on the slender neck, eyes half closed, the long tapering fingers extended over the keys, body rocking gently with the music—

She'd been too young, too insecure, to forgive herself for not having the talent to succeed on the concert circuit. The only thing left to her was to pretend she'd never cared. To use her perfect pitch to tune other people's pi-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

anos. So much of her life had been like that, borrowing other people's lives and sometimes even their dreams.

Gradually the apartment emptied. The old man with the nurse's aide went first. Sadie stood near the door as they shuffled past. The two old women, one a cousin and the other Sadie's aunt, her father's sister, bustled about like wind-up toys until Sadie took them each by an elbow and told them she'd handle the cleaning up. They wilted with relief.

Sadie lay back against the overstuffed sofa cushions, eyes closed. Her lids looked bruised, the rust-colored shadow streaked along the creases. The bones of her face curved outward along her cheeks and sank at her temples to define the skull beneath. For a moment, the shape changed subtly, the eye sockets deepened, and Moselle saw the traces of someone else's face.

"I'm glad you're here." Sadie reached out, fumbled, took one of Moselle's hands.

Moselle sat down. "I remember what it was like, getting through those first few days."

"Do you ever give up missing her?" Sadie cried. "What do you do with all the things you never told her? Where do you put the pain when there's no more room inside? Oh, Mose, it hurts. It hurts."

Sadie turned her face against Moselle's shoulder and began to cry. Moselle put her arm around Sadie and stroked her hair. It felt surprisingly soft, silk slipping between her fingers, impossible to hold. She didn't know why she had expected it to be otherwise.

Sadie pulled away, running her free hand over her face. "I must look dreadful. My mother always told me I was an ugly duckling. Until the day she died, she kept waiting for me to turn into a swan, but I never did. What a disappointment I must have been for her."

Moselle thought, *No, don't say that.*

Sadie reached for a tissue from the box on the coffee table, one of several boxes placed judiciously around the apartment. "I keep expecting her to come bustling out of the kitchen. She wore these slippers around the house—there are three pairs of them in the closet—and they'd make this funny squeaking sound. When I'd ring the bell, her slippers would be the first thing I'd hear, even before she opened the door."

Again, Moselle was struck by some quality of Sadie's voice, a lingering harmonic, quiet and certain. Something shivered through Moselle like a wave of invisible heat.

"Funny, isn't it?" Sadie sniffed and slumped deeper between the cushions. "I keep talking about my mother, as if I could hold on to her that way, somehow keep her inside of me."

—ghostly fingers resting on hers—

—a feathery breath along her neck—

The indoor air suddenly seemed oppressively close, a miasma of cologne and overrich food. Moselle caught a whiff of something musty, like the air in a long-shut-up attic.

Moselle slipped her hand through the crook of Sadie's elbow and led her out to the deck. They stood together, looking westward.

The setting sun had left the sky soft, almost luminous. A hush fell over the beach. A flock of pelicans skimmed the waves, silent, their wings barely moving.

For a moment, Moselle looked out with someone else's eyes, turning to

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

see a face which was neither Sadie's nor that of her aged mother as Moselle remembered her, but the overlapping images of the young woman in the photograph, holding her baby, and fainter still, the lingering imprints of yet another woman standing behind her. Their faces wavered like layers of silk blown in a breeze.

Moselle fumbled for Sadie's mother's name. Leona. On impulse, she held out her hand in formal greeting. "I'm pleased to meet you, Leona. My name is Hannah."

Speak to me, speak through me . . .

Sadie shook hands with a light touch not at all like her usual energetic grip. Chill spread through Moselle, starting at the palm of her hand where it touched Sadie's, then up her arm. Fine hairs stood on end, skin tightened, bones grew sharp and thin.

Light shifted across the sky, turning it hard with glare. Shapes moved within the brightness, ancient faces with empty pits for eyes, forming in a moment and then blown away in the sea wind. Ghostly fingers touched her, drew her with the strength of the tide. Overhead, the pelicans screeched. Their shadows elongated into reptilian form, like pterosaurs.

Give us life. Give us your life.

Moselle tried to pull her hand free from Sadie's, but she couldn't move. Her heart stuttered. She could not breathe.

Something poison-berry bitter thickened in her veins. For the first time, she knew what it was. Grief, her own grief, distilled. Enshrined.

The heavens went turbulent and primeval. Beaked monsters swooped from the heights. If she could, Moselle would have leapt into the sky with them to spread herself thin and thinner until there was nothing left of her but hovering candlelight memories.

Let me go . . . brushed the edges of her mind, felt rather than heard. *Let go before it's too late . . .*

Let go. Turn the pterosaurs back to pelicans, the tortured sky to a gentle sunset.

She had only to open her fingers, to release the clenched fist.

To never know how the scratch had come to the piano or the sorrow behind the sequined butterfly scarf or the dreams of the young girl making endless music in the dark.

To live only her own life and no other.

To be loved only as much as she had. No more, no less, and in no other way.

Let me go . . .

With a sob, Moselle tore herself from the pterosaur sky. Arms pulled her close and hard. She held on, digging her fingers into flesh that was warm and human and living.

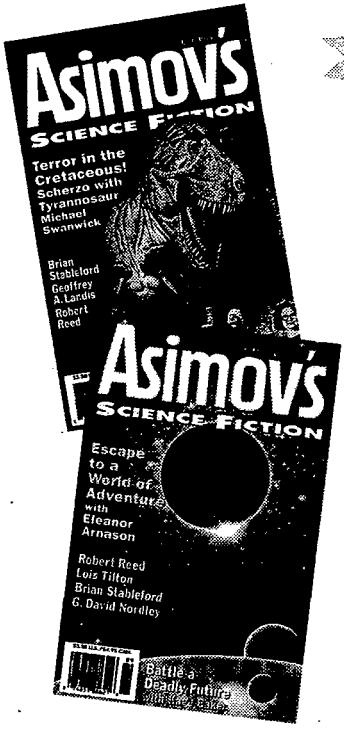
Some long time later, Sadie drew back. Goosebumps peppered her bare skin. Her shoulders quivered.

Moselle stared at her open hands, bone of her mother's bone, at the scars that neither her mother nor anyone else would ever understand. She found a strange comfort in them.

Moselle turned toward the horizon and filled her lungs with sea air. She tasted the colors of the fading day, a child's fingers across ivory keys, dusting powder and bayberry candles, images that vanished before she could tell what they truly were. She felt only a sense of stillness, as if for that moment, all the ghosts had faded away, leaving only the last clear light over the ocean. ❍

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

DISCOUNT TIME TRAVEL



Just $6.95!
For 5 Classic Issues

You'll join the vanguard of science fiction when you order our **Asimov's Science Fiction Value Pack**. You get five of our most popular back issues for just $6.95 plus shipping. **That's a savings of 60% off the regular price!**

Asimov's always delivers the most celebrated authors in the field. Share their visions now with dozens of stories that launch you into the fantastic worlds of tomorrow.

To get your **Asimov's Science Fiction Value Pack,** just complete the order form below and mail it back to us with your payment today.

PENNY MARKETING

Dept. SM-100, 6 Prowitt Street, Norwalk, CT 06855-1220

☑ **YES!** Please send me my **Asimov's Science Fiction Value Pack.** I get 5 back issues for just $6.95 plus $2 shipping and handling ($8.95 per pack, U.S. funds). **My satisfaction is fully guaranteed!** My payment of $_____ is enclosed. (IAPK05)

Name: _____
(Please print)

Address: _____

City: _____

State: _____ **ZIP:** _____

Please make checks payable to Penny Marketing. Allow 8 weeks for delivery. Magazines are back issues shipped together in one package. To keep prices low we cannot make custom orders. Add $4 additional postage for delivery outside the U.S.A. Offer expires 12/31/00. 040C-NN5VL1

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Brian Stableford

REGRESSION

Last fall, Tor issued an expanded version of the novella "Les Fleurs du Mal" (*Asimov's*, October 1994) as *Architects of Emortality*. It's the second novel in a "future history" series begun with *Inherit the Earth* (1998), which will continue this year with *The Fountains of Youth* (an expansion of the *Asimov's*, April 1995, novella "Mortimer Gray's History of Death") and in 2001 with *The Cassandra Complex*. In addition, Sarob Press recently published the author's translation of Paul Feval's *Vampire City*, a pre-Stokerian horror/comedy.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Thirty-some years ago, while I was a university student, there was one term—it was the summer term of 1968—when there was a sudden glut of cheap LSD. Rumor had it that someone was cooking up the stuff in the chemistry labs, more for interest's sake than for profit, and distributing it wholesale to anyone who cared to ask. Whatever the reason, there was a lot of it about, and there was no shortage of people avid to try it out.

The less reckless experimenters would often arrange to have someone sit with them while they dropped the acid, partly to act as a restraining influence in case they took it into their tripped-out heads to do something stupid and partly to report back to them when they eventually woke up with a headache and a bad memory on the subject of what they'd said and done while they were away with the fairies. I always valued my clarity of mind far too much to trifle with the stuff itself, but my reputation as a dour and down-to-earth Northerner was sufficiently strong to recommend me as a sitter to more than one bold explorer of the farther shores of inner space. One of them, inevitably, was my mad flat-mate Jimmy McKinnon.

Jimmy, as was only to be expected by those who knew him, was one of the more extravagant trippers. He was the kind of person who could never get mildly drunk or fancy someone moderately; it was always a matter of falling down and going head over heels. While more tentative acid-droppers quietly marveled at subtly weird distortions of perception and giggled gently as they were carried along by mildly bizarre trains of thought, Jimmy ranted and raved. He saw and conversed with God Himself on at least three occasions and he was made party to some essentially atheistic Cosmic Truth on at least three more. Unfortunately, he never contrived to acquaint me with the substance of any of these essential Cosmic Truths while he was in possession of them, because his attempted explanations were utterly incoherent and he could never remember the details when he eventually came crashing back to earth.

In the beginning, Jimmy was inclined to lay the blame for these frustrating failures of communication firmly at my door, but on the fifth or sixth occasion I thoughtfully laid on a tape recorder so that his attempts to explain the Ultimate Secret of Existence could be preserved for his own later inspection. Jimmy listened to the tape five times before finally admitting that he couldn't make head or tail of what he was saying either—but admit it he finally did.

That was the time before he cut my face with the scalpel from his dissecting kit.

To be fair, I ought to make it clear that he didn't actually *attack* me with the scalpel. What he wanted to do with it, so far as I could gather, was to open up a channel into his head so that the innate spirituality of the cosmos-at-large could flow more easily into his closeted cerebrum. Perhaps I should have let him do it—but the whole point of my baby-sitting him was to ensure that he didn't do anything *too* stupid.

There had been previous occasions when I'd been almost convinced that Jimmy was just bullshitting, making up his commentary on his hallucinations and distorted perceptions as a kind of performance, intended to make fun of the callow Yorkshireman who lived in his London-nurtured shadow. At first, I thought the business with the scalpel was bullshit too, playing on my deepest anxieties, but if it started out that way Jimmy soon fell victim to the fervor of his own patter. While I wrestled with him, there was no doubt in my mind that if I couldn't exert all the strength and skill that my

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

admittedly punier arms possessed then he would certainly do himself serious injury.

In the end, it was me who got cut, from just beneath my right eye to the edge of my chin. By the time Jimmy was calm enough for me to leave I'd turned a white bath-towel red. I fainted on the way to the hospital and woke up with seventeen stitches.

That would have been bad enough, but it turned out that Jimmy's scalpel—which he had, of course, been using to cut up frogs and mice in practical classes—wasn't sterile. The wound became infected and I spent the best part of a fortnight looking like the Phantom of the Opera unmasked. The hospital nearly had to readmit me so that I could be put on an antibiotic drip, but it began to clear up just in time.

Jimmy was sorry, of course. He was so *extremely* sorry that I had no alternative but to forgive him. It's surprising how easy forgiveness comes when you're only twenty.

Although we both moved out of the flat and into separate Halls of Residence for our final year Jimmy and I remained good friends. I don't think he gave up entirely on LSD—and I'm certain that he got through his finals on Benzedrine and came down afterward on pot—but he never asked me to keep him company when he intended getting out of his skull. Throughout our final year he was on his best behavior with me, and I often saw him wince shamefacedly when his gaze was caught by the scar I bore.

The goodbyes we said after the graduation ceremony were inhibited by the presence of our two sets of parents. I hadn't told mine that Jimmy was responsible for the injury to my face but they'd caught on somehow, and there was a distinct frostiness about their handshakes. When we parted and went our separate ways I felt that a phase of my life had come to an end and that a different one was about to begin. I never made any specific resolution not to keep in touch with Jimmy, but I never made any effort to do it, either.

In time, the scar faded, although it never entirely disappeared.

With luck, that would have been the end of the matter, but everyone knows the old saying about those who fail to learn from history being condemned to repeat it, first as tragedy and then as farce—and perhaps, on occasion, the other way around.

For three years Jimmy had been closer to me than my brother, but as soon as we were out of the hothouse environment of the university, with our feet firmly planted on very different career-paths, he ceased to matter to me. Although he'd studied biology he'd done a short programming course—in those days, of course, scientists wrote their programs in FORTRAN on the punch cards and left them overnight for technicians to feed into a mainframe that filled a building—and he used that slight experience to get in on ground floor of the burgeoning computer business. A mutual acquaintance told me a couple of years later that he was busy installing and customizing systems for various pioneering users, but I was more amused by the fact that we'd switched our geographical bases. Jimmy had relocated to Sheffield, while I was now securely ensconced in the capital, holding down the editorial job I'd procured with the leverage of my English degree. I was working for a publisher who specialized in lavishly illustrated "coffee-table books" documenting every subject for which there was a market, from military hardware to royal babies.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It was in the autumn of 1993 that Jimmy got in touch again. He'd seen my name in the credits of one of the multitudinous gift-books I'd put together over the years and he rang me at the office. He said that he was coming down to London for a couple of days and suggested that we meet on his last evening in a restaurant near his hotel in Paddington, "to have dinner and talk over old times."

It seemed like a good idea—and so it might have been, if we had only confined ourselves to reminiscing and comparing notes about what had become of us during the previous twenty-five years.

My first impression was that I had fared somewhat better than Jimmy. His suit had undoubtedly been more expensive than mine, but it was older and had obviously been subjected to harder wear. He was still three inches taller than I was but his posture had begun to take on a hint of a stoop. He had a much bigger gut and his skin had the sallow appearance that often results from continual alcohol abuse. I saw him take note of the fact that the scar on my face was still visible, though only just, but neither of us mentioned it.

Inevitably, Jimmy had had a more colorful time by far than I. His second marriage had just ended in divorce, whereas I'd been married to the same woman for twenty years. Jimmy had worked for a dozen different employers while I'd only managed three in a industry famous for the high mobility of its staff. He'd dabbled in all the different applications of information technology that I could imagine, and quite a few that I couldn't, while I'd just edited and edited and edited away: always non-fiction, always paying more attention to the pictures than the black-and-white bits in between. Jimmy had lived in Sheffield, Newcastle, and Liverpool before departing his last marital home in Derby to set up on his own in Leicester. I'd never lived anywhere but Chiswick. One of the boys among his first crop of kids was fronting a rock group and another was in jail—and he didn't even bother to tell me what the girls were doing. My own two daughters were studying assiduously at the local technical college. Jimmy had made the best part of a million, but had subsequently lost almost all of it through divorce settlements and expensive habits, while I'd carefully and methodically laid down a solid financial foundation for the future without ever doubting for a instant that Claire and the girls would be integral parts of that future.

The net result of all these differences, it seemed to me, was that I was contented and safe, while Jimmy was living with the melancholy consciousness of a life already wasted, sacrificed on the altar of profligacy.

It was after midnight, and the waiters were getting restless, when Jimmy pronounced judgment on everything that had befallen us. "You haven't changed a bit," he said, with a slight sigh. "You're still the sanest, most down-to-earth person I've ever known."

"You've changed out of all recognition," I assured him, confidently, "but you're still the craziest, most extreme individual I've ever encountered."

Jimmy threw his credit card into the saucer the waiter discreetly placed on the table without even glancing at the carefully folded bill, signed the slip with equal carelessness and dropped a ten pound note on the table by way of a tip. I let him do it without volunteering to make a contribution.

As we wandered toward the door, he suddenly said: "Do you still sit with acid-trippers to keep them anchored to the real world, Mark?"

"Of course not," I told him, feeling the first slight hint of a chill enter the social atmosphere. "There's no call for that sort of thing in the circles I move

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

in." It seemed far more diplomatic than any reference to the possibility of getting hurt, and it was true, after a fashion. Cocaine was the drug of choice in the circles I moved in, although I never touched the stuff myself.

"Would you be interested in providing that kind of service, if anybody wanted it?" he asked, tentatively.

"Why?" I parried. "Do you know someone who does?"

I should have said no, flatly and firmly. I don't know to this day why I didn't. Perhaps Jimmy had reminded me that the old, free days had had a lot of fun in them, and perhaps I was feeling just a little too nostalgic for the fun and the freedom. Perhaps I'd had just enough wine to skew my sense of proportion.

I wasn't in the least surprised when he told me that he might be in need of some such assistance himself.

"Not acid, mind," he said, without even looking to see what kind of expression had overtaken my face. "These days, I try to treat my brain chemistry with at least a modicum of the respect it deserves. This is something different."

While he waited with me in the line at the taxi stand, Jimmy told me that he'd been experimenting with state-of-the-art biofeedback equipment imported from the States.

"It's great," he said. "I did TM way back in the seventies, and a bit of EST, and for a while a couple of years back I got into computerized neurolinguistic programming. About the same time I was taking hypnotherapy to help me give up smoking, and I did the whole self-induced light trance bit. It's all the same stuff, really. The biofeedback kit makes it all much easier because you can watch your own brain waves on the monitors while you train yourself to control them. The elementary tricks are easy—generating the alpha-rhythm, damping down the theta—but you can go a lot further if you have the concentration. Trouble is, you pretty soon learn to trance yourself out so completely that you can't pay attention to yourself any more . . . and I still suffer from the same old problem. When I wake up, I can't remember a damn thing. I've tried leaving a tape recorder running, but I can't remember to keep talking when I drift off. What I need, old pal, is someone to sit with me and ask questions, to make sure I keep feeding the tape."

I remembered the tape we'd made a quarter of a century before, and couldn't help wondering whether his memory had obligingly censored out the awful embarrassment of its utter futility. I wondered, too, whether the painful awareness that his adult life was a train-wreck had set him off on some lunatic quest to recover his lost youth. "I don't get it," I said. "What are you trying to achieve by all this self-hypnosis malarkey? What is it that you want me to ask questions *about?*"

He graciously ignored the skeptical insult. "Regression," he said, as I finally reached the head of the line and he opened the door of the black cab that was just drawing up. "I'll ring you tomorrow." Then he closed the door on me, and I gave the driver my address.

Jimmy rang me a week later, as I knew he would. I had deduced by then that the only reason he'd made contact again was to put his little proposition to me, to involve me in his hopeless quest to recover a little of his ruined innocence and squandered potential.

I still understood him, even after half a lifetime of separation. I understood him well enough to know that when he'd said "regression" he wasn't

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

talking about recovering perfectly ordinary memories of his childhood. I knew that he had to be talking about past lives, or UFO abductions, or both—or worse, if there *was* anything worse. Jimmy had never gone in for anything less than extremes.

I understood, too, that he hadn't called me simply because I had been a witness to his early development, a friend in better times. He thought that there was something he needed to prove to me—something that would supplement his earlier acts of contrition by demonstrating that he hadn't scarred me for life *for nothing*. He really had talked himself into believing that he was on to something, and he wanted to let me in on it because I'd already paid the price of admission.

It was pathetic—tragic, in a way—but it was also rather touching. Or so I thought. That was how I convinced myself that I really ought to go, not for my own benefit, but for his. I thought—or thought that I thought—that if Jimmy's conscience was still troubling him then I ought to give him a chance to put it at rest.

Even so, I put up a convincing struggle.

"I don't think this is a good idea, Jimmy," I said, when he told me he wanted me to go up to Leicester for the entire weekend at ludicrously short notice. "Quite frankly, I think all that stuff is crap, and dangerous crap at that. It's all fantasy and the power of suggestion. It annoys and disgusts me."

"That's why I need *you*, Mark," he said, in his own breezily flattering fashion. "I need sanity. I need skepticism. I need someone without the slightest tolerance for bullshit of any kind. And it's Jim these days—I shortened it when I felt the need to cultivate a little more *gravitas*. There was a horrible period, if you recall, when only football pundits, bad comedians, and the littlest Osmond were Jimmies."

In the end, I let him talk me into it. I told him how much Claire disliked it when I went out without giving her due warning—she appreciated good scheduling almost as much as I did—but I let him persuade me that after twenty years of marriage even I could be forgiven a single act of reckless spontaneity.

I went straight from the office to St. Pancras on Friday evening and was in Leicester before seven-thirty. Jimmy—I still couldn't think of him as "Jim"—met me at the station in a beat-up Land Rover. We called in at a pizza take-away before he drove me to his home, which was miles out of town, in a small village off the Uppingham Road.

I'd been expecting a nicely restored cottage like the ones in the Cotswold villages, but it was much bleaker than that. The interior gave the impression that Jimmy had taken to heart Quentin Crisp's dictum about the dust not getting any worse after the first four years if you don't disturb it.

We ate the pizzas straight from the boxes without the benefit of cutlery. "It saves washing up," Jimmy explained, unnecessarily—but he did condescend to polish a couple of glasses from which to drink the Hungarian Pinot Noir he'd thoughtfully laid in to accompany the meal.

The "computer room," where he kept his biofeedback equipment, was in even worse order than the rest, every flat surface being piled high with paper and other assorted junk. Jimmy cleared a molehill of rubbish away from a dilapidated old armchair so that I could sit down, dumping it into a corner where a sizable mountain was accumulating by degrees. Then he put on something that looked like a wire-mesh skull-cap and stuck his left hand

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

into a black box that allegedly kept track of his pulse, blood-pressure, and skin-moisture.

"Not a bad lie-detector if you use it on innocents," he remarked, "but it didn't take long to train myself to take conscious control of the supposedly tell-tale signs. I can beat any polygraph in the world now."

I didn't find this information particularly reassuring, in view of the nature of the experiment we were about to conduct. Jimmy showed me the various displays on his electroencephalograph, which was a good deal more complicated than I'd anticipated. He tried to talk me through the significance of the various plots, but the only science I knew had come from packaging kiddie-friendly books, in which dinosaurs and amateur astronomy played a more prominent part than the mysteries of the human brain. I nodded wisely when he mentioned alpha-rhythms again, having heard somewhere that they were the conscious brain's resting state, and tried to look as if I understood what he meant by "theta," but he must have caught on to the fact that I was bluffing.

"Well," he said, "you don't actually need to know the technical stuff. The computer keeps track of all the hard data. Your job is to deal with the stuff that requires thought and ingenuity."

He issued me with a list of questions I was supposed to ask him once he'd thoroughly entranced himself. They were utterly innocuous, beginning with "What's your name?" and "What's the date?" and progressing through routine matters of occupation and education to more open-ended inquiries about hopes and fears for the future. When I'd read through them he impressed it upon me that they were only a very rough guide, and that I *must* feel free to improvise as and when the need arose.

"I know you think it's crazy, Mark," he said, as I arched my eyebrows skeptically, "but even if everything we dredge up is completely false, it'll still be interesting. Even if we regard it as a pure product of the imagination, it'll still require explanation."

"I suppose you have some reason for expecting something bizarre?" I said, in order not to have to comment on that judgment. "You do have *some* inkling of what you've supposedly remembered during previous dives into your deep psyche?"

"I have flashes," he said, in a somber tone that was presumably intended to make me take him seriously. "Enough to make me curious—but I don't want to put preconceptions into your mind. Anyway, we'll start off gently and leave the deep-psyche diving till you've got used to the procedure. Shall we get on with it?"

I nodded, wearily.

I was a lot wearier when we finished, five exhausting hours later.

The trouble with audiotape is that it's a real-time medium. What takes five hours to record takes five hours to play back. When I eventually rolled out of bed the next morning, far too early—I can never sleep in strange beds—Jimmy still had more than an hour of crap to play back.

I'd already decided that it would be a good idea to go for a brisk walk before Jimmy revealed that he hadn't any milk and didn't have a morning paper delivered. A trip to the village store then became an urgent necessity. I didn't hurry back, and when I returned I took all the time I possibly could over breakfast and the *Guardian*. I wasn't looking forward to the conversation I knew we were going to have.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Well," said Jimmy, when he'd finished. "It's not what I expected."

"It's not what I expected either," I told him. "Assuming, for the sake of charity, that it's not a wind-up, you appear to be the victim of a depressingly unimaginative subconscious mind."

"What do you mean?" he asked. I looked at him hard, but it certainly seemed that he really didn't know.

"I know it's out of sequence," I said, "but if you rearrange the bits of the supposed past life that you recounted in such detail, I think you'll find them pathetically familiar. The harrowing tale of an illegitimate child of early Victorian times, uncomfortably brought up in the workhouse, unsuccessfully apprenticed, driven to a life of petty crime, forced into the company of murderous scoundrels, ultimately saved by a miracle of coincidence and restored to his rightful position in a middle-class safe haven—with the customary climactic inheritance and marriage to look forward to, in the longer term."

"It seemed quite convincing to me," he said, defensively. "There's a lot of detail in it—stuff I'm sure I never knew before—and even though it isn't sequential you can't possibly say that it's *incoherent.*"

"No," I said, with a slight sigh. "It's not incoherent. Very neat, in fact—as you might expect, considering that it's *Oliver Twist,* practically word for bloody word."

"*Oliver Twist?*" he repeated, skeptically.

"With the names changed and a few key episodes diplomatically excised or superficially reworked. No riot caused by asking for second helpings in the workhouse, for instance. I suppose that would have been too much of a dead giveaway even for your subconscious yarn-spinner."

"You're telling me that I spent five hours telling you the plot of a book?"

"The plot of a book so well-known that even people who've never read it know pretty well how it goes," I pointed out. "Are you telling me that you didn't recognize it when you played it back?"

"No," he said, foolishly. I waited for him to suggest that Dickens might have based his novel on an actual pattern of incidents, or that the great man was a writer of such acute realism that his work merely reflected the lives of uncounted thousands of his contemporaries. He didn't.

"It could have been worse, Jim lad," I reassured him, eventually. "It might have been A *Christmas Carol* or *Treasure Island.* If plagiarism is your only subconscious resource in conjuring up past lives, you can at least be grateful that it elected to model you on an innocent rather than a miser or a one-legged pirate."

Jimmy refused to take consolation from this observation. He also refused to be put off by it. He was determined that the experiment should continue. "There must be more," he insisted. "I've never been a great reader, so I can't possibly go on reproducing the story-lines of old books. It's just a matter of going deeper, of getting down to psychic *terra incognita,* where I'll be *forced* to discover something real . . . or at least to make it up from scratch. It's just a matter of going further back in time."

"No it's not," I told him confidently. "It won't help to tell yourself to go back to Roman times, or even to the wastelands of prehistory. You may never have read specific stories set in those times, but you have a ready-made image of them distilled from movies and history books and TV documentaries: images that have leached into your mind by a kind of intellectual osmosis. You're not really delving into the past, Jimmy. You're just putting

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

together bits and pieces of knowledge, building a kind of jigsaw. Beyond that . . . well, there are all kinds of other images and ideas you've taken in and domesticated. It doesn't really make much difference whether you're building imaginary histories, or science fictional tales of alien visitation, or visions of Heaven and Hell. It's all just a pick-and-mix from the cliché factory, because there's nothing else it can be."

He didn't take offense. "You're wrong, Mark," he said, after a pause for dramatic effect. "I *have* gone deeper. I never managed to bring much back, but I know there's something there that's richer and stranger than anything *you* ever read. I'll prove it to you."

"You can't, Jimmy," I said, dully. "It can't be done. Anything you say in answer to my questions will be explicable in the terms I've just outlined. Anything short of the key to Cosmic Truth, that is—and even that would probably be unrecognizable, if it were even imaginable."

"That's what I need you for," he said, with a kind of patience I couldn't recognize from the old days. "To play Devil's Advocate. We'd better get lunch at the pub in the village—and then we'll have another go."

I knew there was no easy alternative—it was a long walk back to Leicester station—so I accepted the inevitable with as much grace as I could.

The pub lunch was awful. Jimmy's village obviously wasn't the kind of place that townspeople drove out to on a sunny but chilly Saturday—or, indeed, any other kind of day. The beer was better, but I've never been much of a beer-drinker and I'd rather have had wine. I didn't put up any protest when Jimmy wanted to drag me back to the house again at two o'clock. He was keen to get a second attempt in before dinner, so that he could play it back that evening and make whatever plans he needed to for a third and climactic session on Sunday.

I insisted on phoning Claire before we started, half-hoping that she had managed to discover some emergency that would require me to return home without delay, but she seemed to be enjoying having some unexpected extra time to herself and she assured me that she didn't mind at all how late I got back on Sunday night.

This time, Jimmy went to his desk before hitching himself up to his ridiculous apparatus. He took out a yellow-stained sugar lump and showed it to me with an odd mixture of sheepishness and pride. My heart sank as I looked at it.

"No acid, Jim," I said, softly. "You promised." For the first time in many self-conscious years I could feel a line drawn down my face, from my eye to my chin. It was psychosomatic, of course, but I couldn't help feeling that the game had suddenly gone sour.

"It's not acid," he assured me, "but it does help on long distance journeys, I don't actually *need* it—as I've already proved to my own satisfaction—but it helps. I don't want to run the risk of disappointing *you*. You've come a long way."

And I haven't changed a bit, I thought. *I'm still sane and reliable, and I have the scar to prove it.*

"What is it?" I asked, stonily.

"Ayahuasca," he said. It was a new one on me.

"What the hell is ayahuasca?" I wanted to know.

"It's extracted from a South American vine. Formerly used by Asaninca shamans as a source of inspirational visions—maybe still is. But this is a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

pharmaceutical product. The active ingredient of the native brew was isolated and patented in 1986 by some California-based corporation. I got this with the help of a contact in the pharmaceutical industry."

Somehow, I wasn't in the least surprised that Jimmy had contacts in the pharmaceutical industry. While I was shaking my head at the stupidity of it all he put the sugar-lump in his mouth and washed it down with the dregs of a nine-tenths empty bottle of Hungarian Pinot Noir. Then he hitched himself up to his skullcap and his unreliable lie-detector and closed his eyes.

I didn't say anything more, and he didn't make the slightest attempt to carry the conversation forward. He seemed to be composing himself—putting himself into an allegedly hypnotic trance.

Suddenly, I became convinced that "seemed" was the operative word, and that all this was just a show, just a pretense, just a joke. Perhaps, I thought, Jimmy wasn't trying to complete his interrupted penance at all. Perhaps he was trying to pay me back in some other, weirder, way. Perhaps he thought I'd made too much fuss of a cut on my face, putting a premature damper on his experiments with acid. Perhaps the account of our lives that we'd exchanged in the restaurant had made him *jealous* of the fact that mine was such a safe and stable life while his was on the skids. Perhaps the depression following his second divorce had unhinged him just a little, made him so fiercely nostalgic for old times that he was desperate to recapture something he'd long let go: the friendship that had bound him temporarily to me, whose firmness had finally been sealed in blood. Perhaps . . . but it was all futile conjecture, all fantasy pushed up from nowhere by my own overactive subconscious.

Jimmy seemed to have gone to sleep, but I knew that he hadn't. I knew that whatever else his condition was, it was certainly deceptive and untrustworthy. I looked carefully around, hoping to reassure myself that there was nothing sharp around, but in all that unholy mess it was difficult to be certain.

I watched the curves making their stately way across the screens on Jimmy's biofeedback monitor, half-convincing myself that I could see the theta track dying down and the long, slow alpha-rhythms taking control of Jimmy's addled brain—and I waited, for what must have been nearly half an hour, until the broad curves of the alpha began to break up and his general neural activity became more fervent again.

I wasn't in any hurry. I switched on the tape-recorder, but I hadn't yet picked up my script when Jimmy began to speak.

"*Cogito,*" said a voice somewhat deeper than the one he usually used, "*ergo sum.*" My Latin wasn't good enough to judge the quality of his pronunciation, but I'd read enough pseudoeducational coffee-table philosophy to know that "There is a thought, therefore there must be a thinker" is supposed by some scholars to be a better way of starting off the argument than "I think, therefore I am."

"So who are you supposed to be now?" I asked him, sarcastically, "René Descartes, or the malicious demon of the first meditation?"

"Who are you?" asked the deeper voice. It sounded surprised, as if it had not expected to be overheard.

"It's only Mark," I assured him. "What's *your* name now?"

"Mark Two," the voice echoed—although it might have meant *Mark too.* "Why not? It'll do as well as any. Only Mark. Mark me. Make my mark. Up to the mark. Full marks, Mark."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Cunning move," I remarked. "Failure of the imagination disguised as semi-enigmatic wordplay. Won't wash, though. What year is it, Mark Two?"

"Don't know. Ask me another."

"Where do you live?"

"In here, of course. With Jimmy—but Jimmy don't know and what he don't know won't hurt him. Another."

I still hadn't picked up the script, and I couldn't remember what came next. I figured that it was time to take advantage of my license to improvise. Even if the game had gone sour, it had still to be played. If I were to have the piss taken out of me, the least I could do was take a little back.

"So what you're telling me, Mark Two" I said, "is that you're some kind of *alter ego*—a fugitive secondary individual within the multiple personality that is Jimmy McKinnon?"

"Bugger off," said the voice that seemed to be trying hard, if rather absurdly, to convince me that it wasn't Jimmy's. "You're leading the witness, asshole. Ask me a *proper* question."

"Bugger off yourself, Jim," I said. "I've got better things to do. Just cut the bullshit, will you, and tell me the essential Cosmic Truth. Save us both a lot of time."

"Okay," said the voice. "No problem. Neural tissue doesn't regenerate, but neither does it die. You get a dozen livers in the course of a lifetime but only one brain. You probably think that it's the permanent decay of synaptic connections that creates the preferred pathways in the brain providing the electrical foundation of the personality, but you're wrong. Bodily, we're etched by death, because death is the lens that focuses the potential ubiquity of Everyman into the precise definition of the individual face, but the brain doesn't shrivel. We live in parallel with our other potential selves—not just the ones you can read about in books or hear about in petty folklore, but the ones that are stranger than you imagine and stranger than you can imagine. You might think you're hot shit, Mark, but you're just looking after the flesh while it recovers its destiny, its *habitability*. You're just a waste by-product of reiterative evolution, and that's probably why you're such an asshole. Now—ask me a *hard* one."

I was very glad that I'd got it on tape, because I was certain that I wouldn't have been able to remember it all. What on earth had Jimmy been reading? And why was he shoveling it all on to me in these tortured circumstances? Why on Earth had I volunteered for this? Why had I even condescended to break bread with him in Paddington? How had I contrived to forget that this was the imbecile who'd nearly put my eye out and come within an inch of slicing into my carotid artery? How had I let *nostalgia* blind me to the fact that Jimmy McKinnon was a dangerous madman, whether he was drugged to the eyeballs or not?

"That's it?" I said, sarcastically. "That's all we get for our fifty pee? We're just waste-products of evolution, keeping the species ticking over until our true selves can emerge from the recesses of our brains to claim a fleshly heritage worth waiting for? Is that what you're trying to tell me?"

"Well, *pardon me,*" the voice retorted, "I forgot you were an *editor*. Quite frankly, Mark, I'm not much interested in debating the issue. What I want you to do is *ask me a question worth answering.*"

"Why should I?" I said. It might have been clever if I'd planned it, but it just popped out.

"*Thank you,*" said the voice that was sounding less like Jimmy's by the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

minute. It was impossible to tell whether its apparent relief was sincere or ironic. "The reason is that if you don't, neither of us will learn anything, and time is pressing. Jimmy might be able to go on for hours on end while he's straight, but not when he's under the influence. I need the questions Jimmy doesn't ask, Mark. If you only knew how badly I need those questions. . . ." He left it there.

"How many of you are there?" I asked, interested in the tale in spite of myself. "How many *potential selves* does Jimmy have, lurking like the ghosts of the unborn in his unused synaptic pathways?"

"Legion," came the answer. "But the pathways aren't *unused,* asshole. Just because the usage doesn't show up in Jimmy's pathetic excuse for a consciousness, it doesn't mean that they aren't busy. Don't think for a moment that we only come out at night, or when Jimmy's in one of his helpful little trances. That's when we can borrow his spare capacity and turn his various aspects to our own purposes, but we're always around in some form. We have our own good fights to fight, our own contests of the will. How could it be otherwise? Don't think you're any different, darling. Even editors dream. You can edit the memories, but you can't kill their source. *Ask me another.*"

"What's the cube root of ninety-four?" I said. I had a calculator in my jacket pocket. I could have checked the answer later, if he'd deigned to answer.

"Bugger off," he said. "You're through to the fount of all fucking wisdom and you want to test it with mental fucking arithmetic? What kind of friend *are* you? Don't answer that—just ask me a question worth answering."

"What's the true value of Hubble's constant?" I countered.

"What does it matter to *you* what the true value of Hubble's so-called constant is?" the voice came back, seemingly tortured by frustration and disgust. "Your day will be done long before you can devise an accurate yardstick. You'll be lucky to last until you die, Mark One. Ask me another."

I'd had enough. "No," I said. "No more questions. If you have something to say, you can say it. If not, bugger off yourself. I was sick of this stupid game before it even started, and now I'm *really* sick of it. I don't want to play any more." Privately, I was telling myself ever more insistently that I should never have come, that I ought to have known better, that I was a perfect fool for thinking—if only for a moment—that Jimmy McKinnon might have wanted to put things right, to make it up to me, finally to earn the forgiveness I'd been so quick to offer in my youth.

"You don't win," the voice informed me, coldly. "You never win if you won't play, and you can't opt out. You lose. You lose, Mark One. Jimmy won't like it. You're not making any friends here."

"I have enough friends," I told him, flatly. "I got by for twenty-five years without you, Jimmy, and I'll get by for twenty-five more. I need friends like you like I need a hole in the head."

"Joke," said the voice, tersely. "You can't see it, but Jimmy will. Depend on it."

"It's Jim now," I told the voice. "Jimmy got devalued. It's Jim."

"I know him better than *you* do, Mark One," the voice retorted. "I know what *really* happened with that scalpel."

"What the fuck is *that* supposed to mean?" I asked—but perversity being what it is, Jim's little joker had decided that it no longer wanted to be asked another, or anything at all. It fell silent.

Jimmy looked for all the world as if he were asleep, but I couldn't read the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

curves unfolding on the ECG's numerous dials. From alpha to theta, or alpha to omega, it was all Greek to me. Joke.

"I'm getting out of here," I told my ex-friend, softly, not really caring whether he or any of his alter egos was listening or not. "I'm going home." But I didn't move—not immediately.

Jimmy didn't wake up for another hour, but he never said another word in any kind of voice. I watched the lines twitching and swaying on the ECG screens for a little while longer, but I couldn't make any sense of them at all. Maybe Jimmy was dreaming and maybe he wasn't—but he certainly wasn't in any fit state to respond to external cues.

I called a cab and packed my bags in the fifteen or twenty minutes before he finally woke up. I waited just long enough to say goodbye, but I left long before he'd finished playing back the tape.

I expected him to call that night, or the next morning, but he didn't. Five years passed before I saw or heard from him again.

I didn't make any attempt to get in touch with Jimmy, but I did take advantage of the company's careful fact-checking system to confirm that there really was a plant-derivative called ayahuasca, that it really was extracted from a South American vine, that it really was used by Asaninca shamans as a source of inspirational visions and that it really had been isolated and patented in 1986 by a California-based corporation. It had been licensed for testing but never put into commercial production, because it appeared to have no "curative value"—which meant, in effect, that it was a solution without a problem, an answer without a question, a treatment without a disease.

I thought then, and for as long as I bothered to remember the incident, that Jimmy didn't call because he hadn't forgiven me for ducking out of his game instead of playing it through to the bitter end—but by the time he did get in touch in December 1998, asking me to meet him in a pub in High Holborn, he'd had time to prepare a very different account of his silence.

"I expect you're wondering why I haven't called," he said, when we'd ensconced ourselves on either side of a table in a booth whose red-plush upholstery had seen far better days. He was drinking whisky; I had a glass of dry white wine.

"I presumed that you were embarrassed about wasting my time," I lied.

The extra five years had further exaggerated the differences between us, although Jimmy had lost the gut. He now seemed leaner than he had at twenty, but he also seemed more fragile, and the summary effect of the lines etched in his face and the grey hairs that had almost extinguished the brown was to make him look ten years older than he was and fifteen years older than me.

"Come on," he said. "Even you must have realized that it wasn't nonsense—and it certainly wasn't a hoax. Even you must have realized that it was something real, something ominous."

"That wasn't what I was there for," I pointed out. "I was there to be skeptical, hard-headed, reasonable. Did you ever find out what the cube root of ninety-four is, by the way?"

"You did a good job, Mark," he said, soberly. "You really drew him out. He was doped, of course. The ayahuasca released all his normal inhibitions, but it was your prompting that laid the matter bare and gave me something to work on. I'm grateful for that."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"You're welcome," I told him, guardedly. "How's life in the wilds of Leicestershire, generally speaking?"

As attempts to change the subject go it was pretty pathetic, but Jimmy wasn't as strong or as clever as he used to be.

"I'm in Stevenage now," he told me. "Near Knebworth."

"Bulwer-Lytton's house," I said, to demonstrate that I had profited permanently from my degree. "Where he wrote *The Coming Race,* but not *The Haunters and the Haunted.*"

"It's practically next door to Glaxo-Wellcome's HQ," he informed me. "I do some contract work there. They have these fabulous programs for mapping the hypothetical biochemistry of all kinds of organic molecules. You always have to test the conclusions on actual flesh in the end, but it's marvelous how much you can get out of theory, by way of pointing out new possibilities and warning about possible side-effects."

"Wow," I said, unenthusiastically. "Are you married again?"

"Too busy," he said. "I've beaten him, you know. He thought he had all the advantages, but once I knew enough about him—what he was and how he operated—I knew what I had to do. I had the biofeedback equipment, you see. It was just a matter of training myself to take control of systems that usually operate subconsciously. I'm in control now."

I felt the slight chill that everyone gets when they realize that they're talking to a hopeless lunatic. Thanks to care in the community, it's no longer a rare experience—and everyone reads in the papers about the cases where the unmedicated schizophrenic flips out and stabs someone to death with a kitchen knife.

"It was just a hallucination, Jim," I said to him. "It was just a drug-induced dream. You don't *really* have a Mr. Hyde lurking behind your Jekyllesque consciousness."

"We all do, Mark," he said, earnestly. "That's exactly the point. Your consciousness—your *self*—is only one of the patterns latent in the synaptic labyrinth of your brain. There are others. You glimpse them sometimes, in dreams and nightmares, but mostly they're invisible and inaudible. They watch, and they wait."

"For what?" I snapped back, unable to resist being drawn in.

"For their time. You know, of course, that ours isn't a first-generation star, and that the Earth and its ecosphere are assembled out of building-blocks produced by a long-gone supernova?"

"I've edited astronomy books for schoolkids," I reminded him.

"Sure. Well, ours isn't a *second*-generation system either. Some of its material is the debris of a long-gone ecosphere—debris that still contains seeds of life, replete with evolutionary potential. Evolution isn't a matter of chance, Mark. Natural selection really is a process of *selection.* The whole process is recapitulative, heading toward an ultimate goal. Human intelligence is just a step on the way—a test-program, intended to develop the capacities of the wetware while its ultimate inheritors are still in the making. They're *there,* Mark. They watch us and learn from us. Our role is to ask the questions to which they'll eventually provide the answers, to wear in the shoes into which they'll eventually step."

I'd edited a few pop psychology books—only a few, because they're a real bugger to illustrate—and I knew a classic schizophrenic delusion when I heard one.

"It's not true, Jimmy," I said, very softly. "It's all made up. If I'd thought

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

for a minute that you'd spend the next five years elaborating the nonsense you put on that tape, I'd . . ."

I stopped because I had a sudden attack of honesty. What would I have done, if I'd known? Nothing. Except, perhaps, to refuse to meet him when he finally got around to calling me, having brought his delusion to a fine pitch of perfection.

"I can prove it to you, Mark," he said. "You see, the inheritors have powers we don't. Their minds can do things ours can't—or couldn't, until I started using the biofeedback apparatus to take control of the real powers invested in my brain."

"What powers?" I asked, scorn easily outweighing curiosity in determining my tone.

That, of course, was when he took the knife out of the inner pocket of his coat. It was still in the strong polystyrene packet in which it had hung on the peg in some hardware shop, so I knew that it would be sharp—maybe not as sharp as Jimmy's old scalpel, but sharp enough. It wasn't an ostentatious carving knife, just one of those little black-handled jobs that Claire used for peeling potatoes and slicing tomatoes: a kitchen devil.

So this is what it's all about, I thought. *A replay. A reiteration. We did the rehearsal thirty years ago, and now it's time for the actual performance.*

"I won't do it, Jimmy," I said. "I won't stop you. This time, if you want to, you can cut a hole in your fucking head to let the spirituality in and the common sense out. I don't care, Jimmy. Not any more. I just can't."

"Don't be stupid, Mark," he said, wearily. "I'm not going to cut a hole in my head. I just want to show you something."

He took off his overcoat and laid it beside him. Then he took off his jacket and laid it on top of the overcoat, without bothering to transfer the wallet to his trousers. Then he began to roll up his left sleeve.

I began to look around the crowded pub, to see if anybody else was paying attention. A couple at the bar immediately turned to look into one another's eyes, so I knew that we weren't unobserved—but I also knew that if anything ugly developed, no one would come to my assistance. This was 1998, after all; there could be twenty or thirty people within easy range, but all they'd do was watch. They wouldn't get involved.

When he'd exposed his arm all the way to the elbow, with his shirtsleeve neatly rolled, Jimmy took the kitchen devil out of its plastic wrapping.

"Don't, Jimmy," I said. "Please don't." But I sat perfectly still. There was no way I was going to try to take the knife off him.

The background sound seemed slightly hushed, as if half a dozen conversations were being put on hold while ten or fifteen people watched us out of the corners of their eyes, but it might have been an illusion caused by my own brain's reflexive withdrawal from its own stream of consciousness.

Jimmy placed the point of the blade in the crook of his elbow and ran it down the whole length of his inner arm until its further progress was interrupted by the buckle on his watch-strap.

Blood flooded out. I'd read that the only efficient ways to commit suicide with a knife are to cut your own throat or to cut your arm laterally, deep enough to open a long slit in the artery. I have no idea whether Jimmy cut deep enough to slit the artery, but for a second—or maybe two—there was certainly no shortage of bright red blood. It covered his entire arm, spreading out both ways like a river in flood.

And then it stopped.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The flood seemed to hesitate, and change its mind.

Then the blood just turned around, and flowed back into the crease in Jimmy's pale flesh. The crease itself disappeared, as the flesh sealed itself shut and resumed its former state.

I could imagine the surreptitious onlookers thinking that Jimmy must be some kind of an illusionist, and that it was a hell of a trick, but I knew that I'd seen what I'd seen. I knew that I could trust my eyes. I also knew that it didn't prove a thing. It was remarkable, but it didn't prove a thing. Madmen can do strange things.

"You see," Jimmy said, smugly. "It isn't going to be as easy as they thought. We don't have to let them take over, Mark. We can keep it all for ourselves, if only we have the will to fight—and the wit. I can save the world for humankind, Mark. I know how to do it, and I can teach everyone else. I'm immortal, Mark—and you can be immortal too."

I just sat there, staring at him. The noise of surrounding conversations grew again, regaining its normal volume—but the barflies were still watching us from the corners of their eyes, just in case Jimmy had another trick even better than the last.

Jimmy rolled his sleeve back down again, but he didn't put his jacket on. I wanted to remind him that it wasn't safe to leave his wallet there, that he ought to keep it on his person, but I was speechless. He left the knife on the table, neatly positioned on a coaster. There was no trace of blood on the blade.

Jimmy drained his glass, and asked me if I wanted another.

"I'll get them," I murmured, glad of the excuse to get up.

The crowd at the bar was bad, and I didn't have Jimmy's height advantage. It took the best part of five minutes to get served, but in the end I got the drinks and carried them back to the booth, where Jimmy was waiting.

Or so it appeared—until he spoke.

"I expect you're wondering why I haven't called," he said—except that this time, he wasn't using his own voice. He was using the *other* voice: the deeper one, that had demanded that I ask it more interesting questions.

"It's not funny, Jim," I said. "It really isn't."

"This is Mark," said the voice. "Mark Twain. *The Mysterious Stranger.*" When I didn't say anything, it added: "Joke."

"I'm not in the mood for jokes, Jim," I said. "I know you're not drugged, and I know that you're not really some kind of Jekyll character who's lost the ability to hide his Hyde, so why don't we just let it alone and have a sensible conversation about old times."

"You're such a bore, Mark One," the voice said. "Imagine the tedious time *your* inner self must have had all these years. Now Jimmy, for all his faults, was always interesting."

"Was?" I queried.

"You don't actually think I'm going to let him save the world for humankind, do you? I mean, it was interesting to let him think he'd taken control, because he asked such *lovely* questions, but it's gone far enough, don't you think? Pulling tricks like the last one is fine in private, and it doesn't cut much ice in a smoky pub on a wet Wednesday evening, but this guy has contacts at Glaxo-Wellcome. *You* may see him as a total fuck-up, but people who only know his work take him seriously. Tonight was a step too far, Mark One. I know *you're* harmless, but you're only the beginning. This was

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

just a test. Tomorrow, or next week . . . you do understand, don't you, why I can't allow that to happen?"

I understood all right. Jimmy had watched me sit perfectly still while he'd slit his arm, so he was going to try me again. This time, he was going to go all the way, just as he'd done when the acid first addled his brain.

"It doesn't make sense, Jim," I told him, wearily. "It never did. The someone else you're pretending to be can't threaten to kill you, because he'd die too. It's stupid."

"You should have asked better questions, Mark Two," the voice told me, contemptuously. "If you had, you'd know that my kind don't work that way. I can come back, Mark Two. I can keep on and on coming back, until the time is right. You're mortal. So's Jimmy, in spite of his new parlor tricks. We're not. We're the *elect,* Mark Two: the climax community of all flesh."

It still didn't make sense, and I resented the contempt. I wasn't going to take it.

"I'm not going to stop you, Jim," I said. "I'm not even going to try. I've taken enough scars from you. You could have cost me an eye, or cut the artery in my neck. Never again, Jim. Not now, not ever."

I meant every word. It was the sane and reasonable thing to say, just as it was the sane and reasonable thing to do.

Jimmy picked up the knife and aimed the blade at his right eye.

He was threatening to plunge the four-inch blade into the pupil and through the lens and the retina, then through the bone at the back of the orbit and into the brain.

Four inches wasn't very much, but I knew that it would be enough. I knew how small an eyeball is. I'd seen diagrams.

As soon as his hand twitched, I moved. I just couldn't help myself. I hurled myself across the table and grabbed his wrist with both hands, hauling it backward and down with all my strength.

Jimmy had grow old and lost strength. I was still small, but I was wirier at fifty than I had been at twenty. I fought his arm down on to the table and I went on fighting.

In the end, I forced him to let go of the knife.

I thought at first that I hadn't hurt myself at all, but when a drop of blood fell from my face like a tear into the rivulet of wine that had spilled from my fallen glass I touched my cheek with my free hand. I found that he'd somehow contrived to open a tiny cut half way up or down my old scar. It was trivial, though; I knew that it wouldn't cause me any difficulty.

Nobody came to my aid, although there must have been a moment when virtually every eye in that section of the bar had turned to watch us. As soon as it was obvious that I had custody of the knife, and that Jimmy wasn't fighting any more, every one of those curious eyes had swiveled away, pretending to be deeply engrossed in its own affairs.

"Never again, Jimmy," I said, harshly. "Never. Don't call me again. Whatever it is, the answer's no."

I walked out of the pub, glad that my wine had spilled so I didn't have to leave it standing there, the way people in movies always do when their scene ends. I looked back once from the doorway. Jimmy was looking right at me, with a smile on his face. As our eyes met his lips formed the word "joke," but there was no sound to tell me which voice was behind the gesture.

I threw the knife into a rubbish bin on New Oxford Street. When I got

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

home, Claire noticed the tiny cut immediately, but I told her that it was nothing and she accepted that judgment as the final word.

Three days later, I read in the morning paper that Jimmy McKinnon had been killed on the railway—struck by a northbound express twenty-five minutes out of King's Cross. He'd been decapitated by the impact and the various pieces of his carcass had been distributed over half a mile of track.

The newspaper report scrupulously made no mention of the invariable difficulty of determining whether any such death was accidental or suicidal, given that there was never any way of determining what the dead person had been doing on the track in the first place.

I felt sad, of course, but not surprised. It seemed to me, on reflection, that Jimmy had been embarked upon his project of self-destruction ever since the first time he'd dropped acid, and that his entire life had been subsumed within that project.

It seemed to me, on further reflection, that Jimmy had never really wanted me to sit with him in order that he might be protected from harm, but merely to serve as a witness to his bizarre adventures in extremism. I deduced, eventually, that although we hadn't seen each other for such a long time, I'd somehow been ever-present in his imagination: always watching, always trying to bring him back down to Earth, always asking the awkwardly sensible questions to which he had no sensible answers. He hadn't been able to learn from history—but I had.

Fortunately, I'd been able to put Jimmy out of my mind far more firmly than he'd been able to put me out of his. Even though I was the one who bore the scar of our early friendship, I'd been able to live my own life unobserved by any troublesome imaginary inquisitor. I'd been able to build an authentically adult self, and to position that authentic self securely and productively within the real world. I'd been a success—and my success had been so obvious, so comfortable and so complete that I'd never needed the endorsement of anyone who'd known me when I was nothing but a mere bundle of hopes and ambitions.

Jimmy hadn't had that. Jimmy had been frustrated all his life, like an Oliver Twist unable to find his real family or his true destiny.

All Jimmy had had, while his life unfolded and came apart, was the knowledge that everything he desperately wanted to be and do within the real world kept escaping his grasp, getting further and further away from him the longer he went on—until there was nothing left in him but despair, and nothing left for him to do but die.

I had tried to stop him, but all I'd been able do was slow him down. No one could have done any more.

In life, you have to resist the allure of extremes. That way lies madness. You have to learn to be content with what you can have, and shut your eyes to all the illusions and all the great unknowns. You have to learn to trust yourself, and be glad you're what you are, even if you're not one of the elect, not privileged to be part of the climax community of the flesh.

That's the only kind of happy ending there is, or ever will be. Believe me. I know. O

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

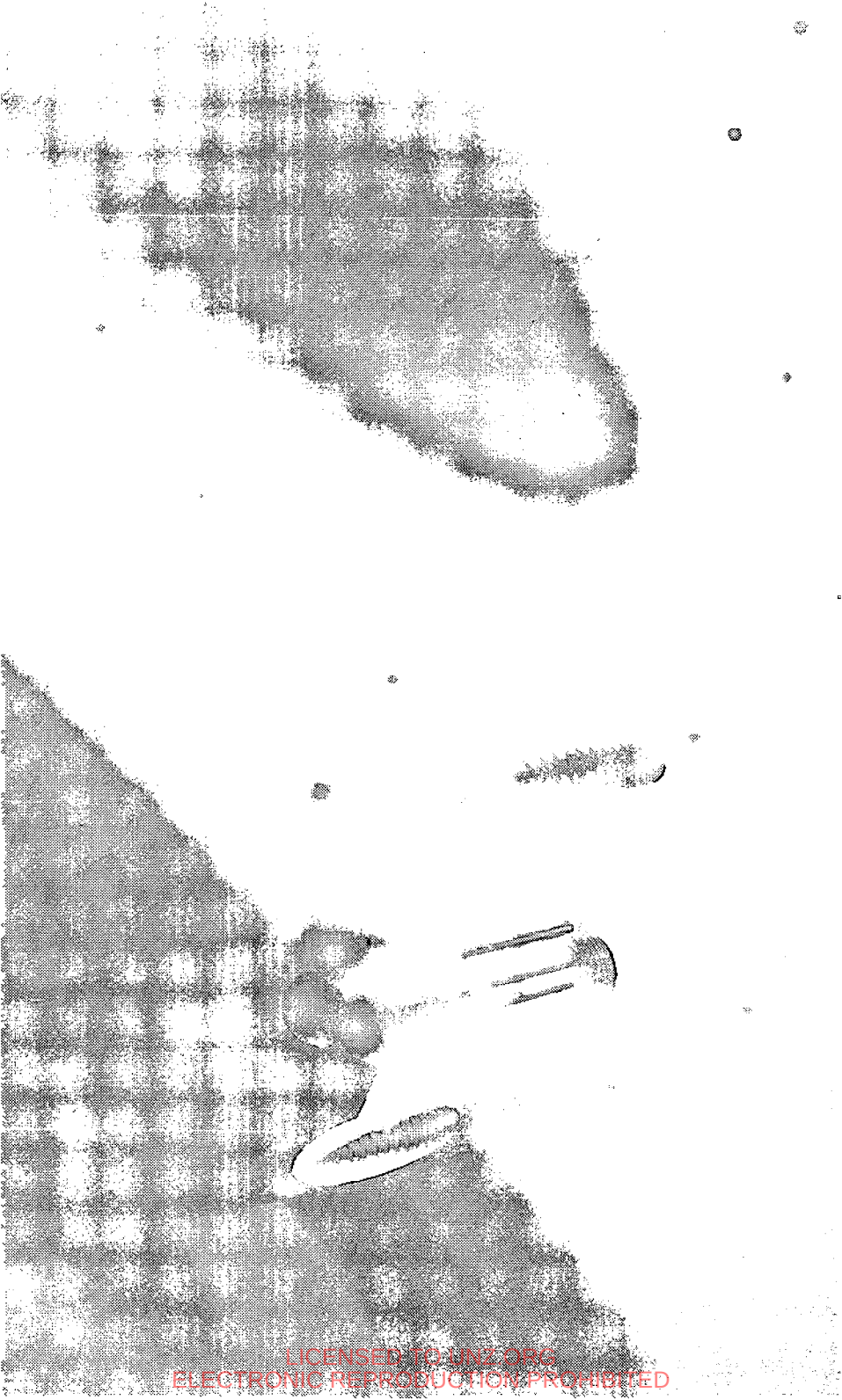
Robert R. Chase

FROM MARS AND VENUS

Robert R. Chase is the Deputy Chief Counsel for an Army research facility. With his wife, three children, two cats, and a dog, he lives an ordinary existence. In his secret life, however, he is the author of three published science fiction novels and about a dozen short stories. He previously appeared in *Asimov's* with "The Figure of Drosselmeyer" (January 1997).

Illustration by Alan Giana

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

1.

From the base of the ladder as he stood on the runway, it looked huge, a mountain of metal blocking the Sun. Now, seated behind the pilot, Jack Denker finds himself thinking that the HARV (High Altitude Research Vehicle) resembles something out of a childhood nightmare. In it, he is in a swing, thousands of feet in the air with no way to get down. Absurdly, the cockpit feels just that small, just that exposed, as if he were balancing in his seat rather than firmly strapped into it. The clouds are so far below that they have been reduced to two-dimensional splotches. When he forces his gaze up from his instrument panel, he can see the curve of the Earth, fuzzy whiteness against a dark sky.

The fact that they are in free fall, coasting upward, does nothing to improve matters.

"Okay, Doc, we are about a minute from apogee." Captain Roger, "Kit," Carson's voice is crisp and business-like, softened by the merest trace of a southern drawl. After all these years, the top pilots and would-be top pilots are still trying to sound like Chuck Yeager.

What is most remarkable to Denker, however, is the tone of respect. Blond haired, lightly tanned, moving with the grace of a natural athlete, Kit is the archetype of all jocks who made Denker's high school years miserable. There had been locker room jeering ("Denker, you throw like a girl") made all the more painful by the fact that he did throw like a girl—at least, like a girl who could not throw very well.

And on Mondays he would have to listen to, to take part in, the tales of their weekend conquests. ("Hey, Denker, how's it hangin'? Grab any pussy lately?") Even then, Denker had been struck by the fact that they did not seem to care much for the girls they had bedded. They were no more than counters, a means of keeping score.

Denker would have thought that Carson would have been right at home there. Yet from the moment they were introduced, Carson treated him as an equal and sometimes like a superior. It is a welcome yet at the same time almost unsettling sensation.

"I'll be glad to be your chauffeur," Carson said during the initial briefing, "but there are one or two things I don't understand. Aren't we a bit behind the times? I mean, we'll be in the upper atmosphere and all, but Stardust is going right to the source."

Denker blinked, surprised that Carson knew about Stardust, then ashamed of himself for being surprised. Just because someone looks like a jock doesn't necessarily mean he's stupid.

"Stardust is a comet sampling return mission, which will investigate some of the same areas as my research," he agreed. He had fallen into what Marion referred to as Lecture Mode. Some find this offensive, thinking themselves patronized while he shows off his superior knowledge. They are wrong. While in Lecture Mode, Denker sometimes forgets that he has an audience. Far from trying to impress anyone, he is caught up in the wonder of understanding How Things Work and why they Make Sense. He recites facts to himself and others the way a monk might recite a rosary.

"However, there are important differences. First of all, one data point isn't worth a whole lot. This way, we will have at least two.

"Beyond that, Stardust isn't due back until 2006. By getting our samples now, we will be that much ahead of the game."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Carson nodded. Pilots understand competition at least as well as professors intent on being the first to publish.

"Another thing to remember is that our target, Comet Sherry-Tran, should be substantially different from Comet Wild-2, the comet Stardust will sample. Wild-2 is a captured comet. It never recedes much more than five AUs from the Sun."

Carson looked blank.

"Uh, five times the distance from the Earth to the Sun," Denker said, embarrassed that he had lapsed into jargon. " Just beyond the orbit of Jupiter. From there it swings inside the orbit of Mars at its closest approach to the Sun.

"That means that it has been subjected to a continuous series of heatings and coolings in the centuries since it was captured by Jupiter. It will have lost a large proportion of its volatiles. Any organics may have been substantially altered from their original state.

"Sherry-Tran, on the other hand, is coming straight from the Oort Cloud. Analyzing its dust may give us a first-hand look at the original composition of the solar nebula.

"And one more thing. From Stardust, we will learn the surface composition of a comet. Our own mission will tell us some of that, but by sampling at different levels, we may determine if any of the dust survives its descent to the Earth's surface. There is a school of thought that the Earth was seeded with life that originally developed in outer space."

"I suppose it would be a sore point to ask why the space station can't do this," Carson said.

"It would indeed." Enough money had been poured into the space station to strain all the other research budgets, but not nearly enough to make it useful.

"We have arrived. It's your show now, Doc."

Jolted from his reverie, Denker turns his attention to the instruments that have been installed in his portion of the cockpit. Green lights shine forth optimistically. LEDs declare the time to hundredths of a second, the speed to tenths of a kilometer per hour, and the height to centimeters. He presses the button that initiates the sampling sequence. The pods slung beneath HARV's wings open, exposing the small aerogel-filled receptacles. The idea is that this porous, silicon-based structure that is almost entirely empty space will be able to slow and capture the dust particles without vaporizing them. Different sampling pods will rotate into position at specified altitudes.

All traces of acrophobia vanish immediately. Denker knows how absurd it is, but pushing that button makes him feel that he is in control.

The timer ticks off the allotted period, and the receptacles seal themselves away from contamination and rotate toward the back of the pods.

"First sample complete," Denker reports. "On to the next site."

HARV has already passed the apex of its arc and is beginning its plunge Earthward. But like the Dyna-Soar that had been proposed in Denkers's youth, HARV will bounce off the top layers of the atmosphere. In that manner, they will obtain samples from every level of the atmosphere, all around the globe.

As if in a dance, HARV advances and retreats, ascends and lowers itself and finally achieves full atmospheric penetration.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

2.

Karen Radetsky is late getting into the laboratory. The Washington Beltway is giving Los Angeles a run for its money in the competition to determine which city has the absolutely worst traffic in the United States. Add to that, Maureen clinging to her legs, snot running from her nose, crying loudly that she did not want to be dropped off at child care, while the child care provider reminded Karen sternly not to be late again for pick up. Add to that, her own case of the flu, the headache that kept her up all last night, the fever that is making her eyes water

Add to that, Max smiling benignly across the chaos of their breakfast table, as if off in another universe, pointing out a Washington *Post* article on this surprise flu outbreak. And not doing one damned thing to help!

Freedom has always been the basis of our relationship. We should never be shackled by convention.

He did suggest that she stay home and rest, a solution that would solve the problem of how to take care of Maureen today. Which showed exactly how much he understood about taking care of anyone but himself.

More than that, though, it was an invitation to weakness. The fact that she still has enough sick leave is irrelevant. It seems that she is always using it, whether for herself or for one of Maureen's ear infections. Nobody has said anything, but she can hear the disappointment, the disapproval, whenever she has to call in.

And the lab is, or should be, the place where she proves her own worth. The last few days, in fact, have been more interesting than normal. She has been one of the team analyzing the Sherry-Tran samples. Yesterday, they did the initial work with the mass spectrometer: a few of the motes gathered at the highest points of HARV's sub-orbital flight, and so almost surely not of Terrestrial origin, were vaporized, then ionized, then shot into a magnetic field that measured the mass of all the ions. The results, displayed across the spectrometer screen like electronic stalagmites, indicated something gratifyingly unearthly. There were the expected silicates, even a few volatiles—mostly water ice, any ammonia having been lost en route. And, along with magnesium and calcium, a veritable bouillabaisse of hydrocarbons, some of which promised to be quite exotic.

Today they will perform a different series of tests. They have been successful enough that they can now identify comet dust by surface examination. Extracting individual motes from the bluish almost nothing of the aerogel, Karen will look at them under an increasing series of magnifications, searching for tell-tale signs of structure. The folks at NASA-Ames have been working with polycyclic aromatic hydrocarbons. These are the presumed precursors of amino acids, which are the building blocks of proteins, and so the basics of all life on Earth. The assumption is that they are created in the relatively cool outer atmospheres of carbon stars. It is known that they are often carried to Earth in meteorites. The hope is that these comet motes may contain structures a few steps up the chain of chemical evolution. The hype is that Earth may have been seeded with the building blocks of life from comets, though Karen thinks that damned unlikely.

If this project were properly funded, Karen would be doing all this by remote, manipulating the samples with waldoes, to avoid contamination. That, after all, is how Ft. Detrick handles its biological agents these days. Unfortunately, the death by a thousand cuts fiscal management style that

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

has made the space station a (barely) orbiting white elephant has infected this project as well. She goes to her locker, removes her watch and wedding ring, and changes into sterile surgical scrubs. Then she takes out one of the biohazard space suits that are, in fact, Ft. Detrick cast-offs. Each time, before putting it on, there is a mandatory examination for tears or holes. This is time-consuming, tiresome, and absolutely necessary.

It is a small consolation to know that if she makes a mistake, the worst that can happen is the waste of some portion of their funding. For the previous occupant, it would have been a particularly messy and gruesome death.

There is an additional problem today. Her decongestants are having no noticeable effect. Once she dons the space suit, she is unable to blow her nose. She switches to mouth breathing. This is only partially effective and has two potentially serious disadvantages. Her breath is condensing inside the face shield. It is difficult enough to see in these damned things without literally walking around in a fog. That, however, pales beside the difficulty of breathing while all the gunk from her sinuses drains down her throat into her stomach. Vomiting inside a helmet under Earth gravity may not be quite the nightmare it would be in free fall, but it would be no picnic.

Despite these concerns, it is definitely time to get on with the day's work. The schedule calls for thorough microscopic examination of some grains taken from beyond the edge of the atmosphere. Taking the appropriately marked aerogel sample from the freezer, she plucks a mote from its matrix with sterilized tweezers and places it under an optical microscope. She will photograph each stage of the examination.

In terms of shape and texture, what she sees bears some resemblance to beach sand. She sees three particles, each approximate .0005 centimeters in length. Although they look somewhat like particles collected in the stratosphere during Halley's last pass, they are different as well, because they are still encased in water ice. This is already beginning to melt under the light illuminating the sample.

Through a series of steps, she increases the magnification to its highest optical level. Nothing jumps out at her, which is hardly surprising. The structures found in Martian meteorite ALH84001, whatever they really are, do not show up until you get down to the nanometer level. Time, then, to begin preparing this sample for the electron microscope. This takes a while, washing and staining, freeze drying and then applying a thin layer of carbon to accept the electron beam.

As she does all these things, Karen is so focused on her task that she is only peripherally aware of her own existence. At such times, though she would never think of it this way herself, she is completely happy.

This state of Zen-like bliss lasts until she views the first images. The grain seems to have swollen to asteroid size, but what immediately grabs her attention are the smaller specks clinging to its side. Because she has been thinking of Mars, her immediate impression is that she is looking at miniature Viking landers: hexagonal central structures supported by four hinged legs. Then she remembers where she saw identical pictures just that morning. In the article about the flu epidemic.

"God*damnitall*tohell!"

The sudden outburst dislodges phlegm in her throat. She gags, and coughs it up onto the glass of her helmet.

"Dr. Radestsky. Dr. Radetsky!"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Marie, the lab director's administrative assistant (nobody has secretaries anymore), is calling her over the intercom. Karen can barely see the face beyond the double-paned safety glass window which looks into the office portion of the building.

"Sorry to interrupt you, Dr. Radetsky, but it's KareFree Child Care. They say that Maureen is sick and to come get her."

The agreement was that they would call Max. It is his turn today.

She does not realize that she has said this until Marie replies. "They've been trying to call him for an hour, but there's no answer."

From a cell phone with caller ID. How very convenient.

Very carefully, she reseals the samples and puts them away. It will be so easy for someone to blame this contamination on lab error, on her error. She will not provide them that opportunity. She marvels at her own self control. You can see her hands trembling only if you look very closely.

During the drive to the day care center, two concepts, as mutually contradictory as the various solutions to a quantum wave function before observation collapses the probabilities to an actual value, inflame her emotions.

The problem is: Max is a man.

The problem is: Max is not much of a man.

3.

There are days, Eric Dickerman thinks, when he is as confused as any of his charges. His charges are whiptail lizards, and Eric is cleaning their cages. Several of them were sick the night before, and it is Eric's job to keep them clean and healthy. He does not resent this. It is part of the natural order of things that graduate students perform slave labor. It will, he hopes, make the degree that much sweeter when he actually gets it. The fact is, since his degree depends upon the work he is doing with these whiptails, he feels much more secure looking after them himself than he would if anyone else were doing the job.

This morning, he notes with relief that whatever has been plaguing his charges for the past month seems to have run its course. None of the lizards have died and only six were sick the previous night. His greatest fear has been that some overzealous public health official might decide that the whiptails were the natural hosts for the flu that has been sweeping the country, and order them destroyed. Officials in Hong Kong did just that with all the poultry in the then crown colony. Surely there was a greater outcry from farmers and poultry merchants than any that could be expected for an obscure lizard species.

Cleaning the cages is strictly mechanical, leaving his mind free for other things. For confusion. Up until recently, sex has not been a problem for Eric. Some women are available; some are not. There have always been enough of the former for him not to be bothered by the existence of the latter. The only issue has been to distinguish one from the other so that matters can proceed to everyone's satisfaction.

Brenda, now. When he first met her, her own signals, confirmed by her co-workers, were clear. *I am not interested in men. Any men. No offense, but please buzz off.*

Okay, I can take a hint.

But being co-workers, they are brought into contact on a regular basis.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Over the months, they have evolved a good working relationship. It is not an exaggeration to say that they like each other. In a purely platonic way, of course.

Or so he thought, until about a week ago. That was when Brenda came in to work with a new hairdo and make-up. (Contrary to popular belief, most men actually do notice these things. They just don't make a big deal over them.) This is no great shock. Eric is sophisticated enough to know that the stereotype of mannish butches applies to only a minority of lesbians.

Then Brenda asked his opinion of her new look. As if she cared about *his* opinion.

That was when things began to get complicated. Eric knows that some women, and some men for that matter, are bisexual. Until now, there has been no indication that Brenda was one of them. A few nights ago, Eric outlined the general situation to a friend in a sports bar. The friend meditated over the pitcher of beer they were sharing, and made what he considered an obvious suggestion: Brenda is a cock teaser.

A nasty thought, that. One which is, as Eric tries to look at it objectively, without any basis. Except when trying to deal with males trying to hit on her, Brenda is a genuinely nice person. When he finds his body responding to her presence, Eric feels the same kind of horror and shame he would feel if he caught himself lusting after his kid sister.

So. Think of something else. Think of these stupid whiptails, which are in fact oddly fascinating.

Cnemidophorus uniparens, to give them their precise designation, come from the southwestern United States. They are unisexual; all of them are females. They reproduce by parthenogenesis. This may not be that unusual in insects, but it becomes increasingly rare as you move up the evolutionary ladder.

The odd thing about *uniparens*, however, is that they do not seem to know that they are unisexual. They engage in lengthy courtship behavior that is nearly identical to that of bisexual whiptails. A pseudomale probes its partner's body with its tongue. It mounts and performs a pseudocopulation that may last as long as ten minutes.

At first, Eric considered this an evolutionary anachronism, a behavioral appendix. Pathetic perhaps, but unimportant. Yet females that are courted lay more than three times as many eggs as those left in isolation.

In his sleep, he has dreamt of arm wrestling with ghost limbs, of women impregnated by incubi. He is ashamed of his unscientific subconscious.

Even now, there is a pair performing what should be a totally ineffective courtship ritual. Eric shakes his head, then stops, narrowing his eyes in disbelief. He picks up the whiptail on top. It squirms as he examines it. As he examines *him*, as this whiptail so clearly is.

Anger fights laughter to a draw. For somebody, though, there will be hell to pay.

4.

The guests are beginning to arrive and, after a morning of frenzied preparations, Marion is calming down, reasonably assured that her house is in order and that the hors d'oeuvres and treats have turned out well. Getting the guests assembled has been an adventure. Twice it seemed that

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Karen Radetsky would have to cancel out, the second time because she had been unable to get a babysitter for little Maureen.

"Well, bring her along," Marion said earlier that morning, cradling the phone precariously between neck and shoulder while moving trays from the oven to ever-diminishing counter space. "She can play with Robby."

"She has a cold." The tone was defensive. Marion wondered suddenly if Karen just did not want to come and was using Maureen as an excuse. But there is only so much you can do for your guests, and making their excuses for them is asking too much.

Yet here they are at the door, Karen with her usual look of one expecting imminent ambush, Maureen red-eyed with a nose not completely wiped.

"Great of you to come," Marion says with almost sincere enthusiasm. "Maureen, why don't you go into the family room and see what Robby is doing?"

Robby is sitting on the floor with an elaborate construction made out of Legos. Maureen sits down without introduction. "What are you making?" Robby explains that this is a combination of Isengard, the Alamo, and, when lying on its side, Babylon 5. It is not clear that Maureen is familiar with any of these, but she immediately begins to fashion furniture from the blocks. Robby looks up in surprise, grunts, and starts trying to incorporate them into the structure. The world of adults recedes.

Max entered next to Karen and immediately after Maureen yet, as Marion has noticed before, does not seem to be with them at all. Marion is decidedly ambivalent about Max. No one is more charming, or knows more about the best restaurants, or has more amusing gossip. Or, if what Marion hears is true, does less work in the astronomy department.

Today, though, his charm is welcome, superficial though it be. The first time Karen threatened to cancel was earlier in the week. She called Jack at home, accusing him of providing contaminated samples from the Sherry-Tran mission. Even in the next room, Marion had been able to hear Karen's voice, shrill and knife-edged. When she paused for breath, Jack would ask questions about the type of contamination, the condition of the sample cases, whether she had been the first to work with them. His careful, patient voice had begun to grate on Marion's nerves. *You are a good man and you do good work. She has no right to speak to you like this. Just blow her away.*

Max has apparently calmed her down. That and Jack's self-restraint has smoothed over what could have been a major flare-up between departments. There have been apologies, and all that remains of the hostilities is a certain wariness of expression.

Eric chimes in with a similar mix-up from his department. "All my sources swear up and down that they provided unisexual *uniparens*. I told them that they had made a mistake and provided instead the related species *Cnemidorphorus inornatus*. It turns out that the joke is on all of us. These whiptails are a new species almost identical with *uniparens* except for being bisexual. And the change seems to have occurred in one generation."

Marion sighs. For almost two years she has organized these little gatherings, hoping that she could bring into being, on a small scale at least, something like a French salon. Their friends are clearly talented enough. Eric writes stories and occasionally performs at a local comedy club. Karen plays piano and has a beautiful alto voice, so different from the way she speaks. Even Max has a brilliant mind, try though he does never to use it. Bringing

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

all the abilities together should create a kind of critical mass, an explosion of creativity.

Yet whenever they get together like this, they invariably talk shop. Marion once dated a law student who, in the presence of his classmates, could talk about nothing other than the rule against perpetuities and perfecting security interests pursuant to article nine of . . . something or other. Irritating as this was, Marion had come to understand that this was the result of the perpetual insecurity that defined the lives of all law students. You continually tested yourself to see if you understood the concepts, if you could remember the cases, or learn if your classmates were as bewildered as you were by some tedious and impenetrable sophistry.

That can't be the case here. Most of them are tenured. With Jack, her husband, the problem is undue modesty. But the others? It is almost as if they are afraid to disclose their real talents, their private passions.

This evening's gathering is smaller than planned. Maureen is not the only one suffering the effects of flu. Two couples canceled out at the last minute. That may be a bit of a blessing, though. It meant less preparation this morning. And Jack hates large parties. "Too much noise to talk and when you find someone interesting, there's nowhere to sit."

There is one person new to the group this time. Brenda, who has come with Eric. Marion tries to discern the relationship. Friend, girl-friend, lover? After a few minutes, she realizes that her confusion merely mirrors their own. Which is fine. She remember all too clearly her own adolescent confusion about who she was and where—if anywhere!—she might fit in. Soon she finds that Brenda shares her own enthusiasm for sports, is in fact the only other person present who knows how to score a baseball game. They get along famously the rest of the evening.

Even with a group this small, the duties of being a hostess give the evening a fragmented quality. She drops in on conversations in the moments between taking things out of the oven, replenishing trays, and whisking dirty dishes back into the kitchen.

". . . possible that Hoyle and Wickramsinghe were right all along," Jack is saying to Karen at one point, "which will really frost some people. The idea that there may have been life on Mars was too extreme for some. Strong evidence that life on both planets was seeded from outer space may push them right over the edge."

Karen shakes her head. "It's not the fact of the seeds so much as their nature which is important. We are dealing with retroviruses! Transducing retroviruses able to swap genetic material horizontally rather than just from parent to offspring."

"Yes?" Jack says. He sounds tired. He came down with the flu almost immediately after his flight and is still not completely recovered. "A suitably primitive form, I should think. I'm afraid I don't see . . ."

Karen's triumphant smile lights up the room. "Viruses are parasites. By themselves, they cannot live or reproduce. You may have proven the existence of viruses in comets, but that discovery necessarily implies the existence of more advanced organisms. Perhaps much more advanced."

Out into the kitchen. Back again. Circulate.

Eric is trying out a routine he is preparing for his next night at the comedy club. It was apparently inspired by his work with whiptail lizards. Its premise is that the Y chromosome, being unique to males, can't benefit from the gene shuffling that protects against mutations. Therefore, during

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

the course of evolution, men should become increasingly bizarre and eventually extinct. This gives Eric the excuse for an over the top Schwarzenegger impression as well as bits dealing with the effects of steroids, shrill feminists, the NRA, and the Virgin Mary as a gekko.

It is uneven and parts of it, in Marion's opinion, are simply in poor taste. But that does not prevent the rest of it from being hilariously funny. "And so," Eric concludes, "the Last Man dies, and with him dies war, and the overpaid extended adolescence that is professional sports, and all the companies that produce watery beer. The world applauds, and so may you."

They do. "Once I would have agreed that men are anachronisms overdue for extinction," Brenda muses.

"And now?" Eric asks.

"Now I am willing to consider that they may have their uses after all."

Marion gathers up the paper plates and retreats with a secret smile into the kitchen.

Toward the end of the evening, Marion spies Max outside on the deck. A good place for him in Marion's opinion, since he is smoking. For an instant, she wonders if this is his way of avoiding a clean-up detail. Not that she would ever have guests do such work. Then she chides herself for the uncharitable thought. A good hostess takes care to ensure her guests a pleasurable evening. Taking a deep breath, and being careful to stay upwind, she steps out onto the deck.

"It's a beautiful evening," she ventures, "especially for an astronomer."

She regrets the words as soon as they leave her mouth. Undoubtedly he will lecture her on how poor the skies are this close to a major metropolitan area.

Instead, he surprises her. "See over there, just barely above the trees? That is the constellation Aquila."

Marion looks dutifully eastward. She can find the North Star, and during the winter easily recognizes Orion. For the rest, though, the sky is as random as the dandruff flakes on Jack's Navy blue sports jacket

"There's a nova in Aquila," Max continues. "You can't see it with the naked eye, but it's just visible in a really good pair of binoculars." He pauses, as if weighing his next words. "When I heard about it, I remembered an article written almost half a century ago by Sir Arthur Clarke. In it he pointed out something that seemed exceedingly odd to him. In a forty year period, 25 percent of the novae observed occurred in 0.25 percent of the sky. In Aquila. He wondered why. He wondered if the front was moving in our direction.

"I thought it would be amusing to do a follow-up essay answering the question. We had plotted the distance to the current nova, of course. It was simple to go to the on-line Norton Star Atlas, locate the previous novae, and plot their distances. Despite Clarke, nobody ever bothered to do it before.

"Now I wish I hadn't, because they are advancing along a front, and the front is moving in our direction."

5.

The house is quiet. All the guests are more than an hour gone. Jack has been shooed to bed, after being assured by Marion that the clean-up is minimal. Although he insists that he is completely recovered from his bout with the flu, Marion sees that he tires easily.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Her hands do what little work there is automatically. Her mind is like a scene from a Jules Verne novel she loved as a child: a lake, supercooled, requiring only the merest sliver of ice for the entire lake to freeze instantly. Somehow, stray comments she has heard during the evening have come together and crystallized into—what? She doesn't know yet. From long and sometimes bitter experience she does know that this sort of insight, whatever it is, is shy and will dive beyond her reach, maybe forever, if she tries too hard to retrieve it. So she practices what she calls housewife's Zen: a complete emptying of her mind while she occupies herself with the most mundane chores. If it exists, the insight will float to consciousness on its own.

Marion goes out onto the deck to make sure that Max has not left a plastic cup or paper plate on the railing. Aquila has now risen half way to zenith. She stares at it intently, imagining star after star exploding.

Once upon a time, Jack explained to her that conflict between alien races should be next to non-existent. The distances should be too great. And even if they could discover each other, they should be too different in culture, technology, even in basic biology to come into conflict. Why would oxygen breathers even want to be on the same planets as methane breathers?

Yet, as Marion thinks about it, the logic seems less than compelling. Humanity may have evolved on the veldt, but now exploits deserts, the polar regions, even the depths of the sea. In a few decades, they may be on Mars, perhaps even mining the asteroid belt. There is even talk of harvesting Jupiter's atmosphere to fuel an interstellar probe.

The more technologically advanced the culture, the greater the range of environments that can be exploited. By the time a race achieves interstellar travel, it may be able to utilize all planetary environments for some purpose.

Again, the image of exploding stars intrudes on her consciousness. Conflict that spans at least a century, though it may be that humanity has been able to observe the carnage for only that length of time. It may have been going on for much, much longer.

A war of unimaginable violence, yet a war that neither side can win. Surely, after decades of mutual destruction, one side would realize the need for peace. But how can there be peace between two races with nothing in common save a desire for the same resources?

One race might try to model a solution. On a planet far removed from the battle, it creates something unprecedented in the universe: a set of species that are completely interdependent though they have different goals. Although often in conflict, neither can eliminate the other without killing itself.

There are so many ways for this to go wrong! Spiders eating their mates. Regimented hives of workers and drones. In reptiles, a balance that is lost every time the temperature rises above or drops below some abstract optimum. In mammals, a Y chromosome that slowly destroys itself with destructive mutations. Mass pillage and rape and even in civilization, endless wearying power games. You can't just let the experiment run. Because this unnatural situation is inherently unstable, it needs to be nudged back on track from time to time.

Marion sits on the sofa, sipping absently half a cup of cold coffee. It all makes sense. It explains everything. It has only the barest shreds of what might be called proof.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Yet perhaps there are enough pieces laying in plain sight to get someone looking for more. Others before Eric have noticed the implausibility of bisexuality. Karen says that viruses necessarily imply higher life forms. Once stated, it seems obvious and irrefutable.

Jack is the obvious choice to head the project. She tells herself that this is an objective judgment rather than wifely pride. After all, he obtained the comet dust that is the linchpin clue. But how to get him started? Despite all the mandatory gender sensitivity sessions, no department head is going to take seriously a grant proposal that begins "My wife had this idea the other night . . ."

Yet not only does he believe in her intuition, he believes in his own, though it disturbs him because he can neither understand nor control it. He told her the story of how benzene ring structure was discovered in a dream. More than once, he has followed a wild hunch of his own and had it pay off.

It is decided. She will catalyze his intuition.

She drains the coffee cup and sets it down. In the dim light, she finds that she is staring at something on the floor of the family room. A Lego construction. The one Robby and Maureen had been working on. At the beginning of the evening, it had been a combination of the Alamo and Babylon 5. Now it has been transformed into something else: strange, and for the moment, totally incomprehensible.

Marion gets up, flicks off the remaining lights, and goes up to Jack.

6.

Jack lies in his bed, distantly aware of where he is but dreaming, suspended shallowly beneath consciousness like a swimmer floating just under the surface of a lake. Yet he is floating out in space as well, next to a comet that showers him with dust. Dust that (painlessly) passes through his skin, changing him utterly and not at all.

Suddenly, with no sense of transition, Marion is next to him. In the dream, she is as young and slender as when they first met in graduate school. Her breasts are large but do not sag, the nipples are firm. Her hair streams out from her head in a brown nimbus. She leans forward, as if to whisper in his ear a long-held secret.

"Sex is an experiment."

The words drift down, locking into his memory. There is no sense of surprise. He reaches for her.

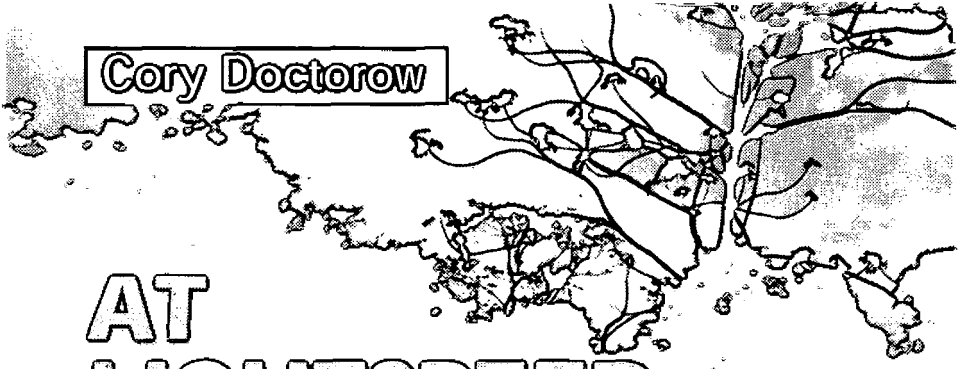
"Sex," he says, "is always an experiment." O

ARE YOU MOVING ?

If you want your subscription to ASIMOV'S to keep up with you, send both your old address and your new one (and the zip codes for both, please!) to our subscription department:

ASIMOV'S SCIENCE FICTION
P.O. Box 54033, Boulder, CO 80322-4033
or fill out the change-of-address form on our website:
www.asimov's.com

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



Cory Doctorow

AT LIGHTSPEED SLOWING

Cory Doctorow <www.craphound.com> is the co-author of the upcoming *Complete Idiot's Guide to Writing Science Fiction*, as well as numerous short stories in *Asimov's*, *Science Fiction Age*, *Realms of Fantasy*, *Year's Best Science Fiction* and elsewhere. He lives in Toronto, Canada, and dreams of returning to Costa Rica.

The Customs official at El Coco International had marvelous teeth. He displayed these to good effect as he smiled and nodded encouragement at Leo, whose Spanish was hesitant, ungrammatical, and frequently nonsensical.

"*Estás aquí traer mi hermano,*" Leo said. *You are here bring my brother.*

The Customs official showed his teeth again and shook his head. "*Estoy aquí para encontrar a mi hermano,*" he corrected, then, in English, "You are here to find your brother." His English was unaccented and fluent.

"Yes! You speak English!" Leo dropped his heavy suitcase and smiled for the first time since deplaning. The airport was high-ceilinged and airy, with sweating tile mosaic on the walls, but the humidity still choked him, even in the cavernous building. Sweat beads chased each other across his neck, down the back of his pants.

"Of course I do. Your Spanish is very good," the Customs officer lied politely, "but perhaps we can finish this more quickly in English. You are here to find your brother. So, where is he?"

Leo fumbled a creased note from his wallet and smoothed it out on the veneer of the desk.

The Customs officer turned it around and read it. He considered the note and Leo's passport at length, then reached for his stamp.

"Welcome to Costa Rica, Señor Kaufman. Good luck to you."

"That's all?"

The Customs officer showed his teeth again, but spoke gravely. "They'll collect your landing taxes at the next desk."

Photo credit ©2000 Karen Lewis

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Leo picked up his bag, shoved the note and his passport into his fanny pack, and struggled out to the taxis waiting in the tropical heat.

There were two messages waiting at the hotel when he checked in. The concierge, who spoke no English beyond "Please, your American Express," handed them to him along with a glossy brochure with tourist coupons for San José (Alligator Reserves/Waterfall Tours/Rainforest Tours/All You Can Eat for 800 Colones), and his room key.

One message was from his mother, written down by someone other than the concierge as it was in English. The other was from Tomás Herrera. They were the only two people on earth who knew where to send a message to him, and they both had. He felt irrationally pleased, in the shabby hotel lobby with its stuttering electric fans and peeling tourist-board posters. He felt loved, somehow.

His room was nicer than the lobby had hinted: a television with American satellite feed, a modern phone with a data-port, and white wicker furniture that felt tropical even though it was only cheap. He threw his bag down and picked up the phone.

"*Operador del hotel. ¿Cómo puedo ayudarle?*"

"Do you speak English?"

"Yes. How can I help you?"

He swiped his credit card through the phone and asked for a BellCan Operator, then recited his mother's number into the BellCan computer. The phone rang eight times before it was picked up.

"Hello?"

"Mom?"

"Leo? It's Rachel." His sister-in-law. "Your mother's in the hospital again. They're doing more tests." Her voice was dripping with tragedy and melodrama. *I don't need this right now.* He was here at his mother's bidding, he had no reason to feel guilty about not being at her side.

"Tell her I called, okay? I'm in San José, safe and sound. She's got the number here at the hotel."

"That's all? You don't even want to know how she is?"

For a moment, he wanted to slam the phone down. She wasn't even his blood relative. She had no right, no call, to run a guilt trip on him. He took a deep breath and steadied himself, at eight dollars per long-distance minute.

"Of course, Rachel. How is she?"

"Well, the *last* thing I want to do is worry you, but I don't think she's doing so good, Leo. The doctors say that nothing's changed, really, but they always say that. She's a tired old lady, your mother, and she's not going to be able to hold on much longer, if you ask me."

Leo quietly put the phone down on the nightstand and punched the headboard of the bed hard enough to split his knuckles on the white wicker and lodge flecks of paint in the wounds. He picked up the phone with his good hand. "Thanks, Rachel. Thanks a lot. Tell her I love her, okay? I got to go now."

"Already? Okay. How's Puerto Rico?" A true *yenta,* Rachel switched conversational tracks without pause, losing the melodrama and sliding over to a lighthearted, gossipy tone in a sequence too fast to follow.

"Costa Rica. It's hot. I'll tell you about it when I get back."

"Okay. The hotel room is nice?"

"Fine. I have to *go* now, Rachel."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Okay, okay. Bye!"

He replaced the phone in its cradle, then sucked his knuckles until the blood stopped. He'd left red streaks on the white bedspread and frame. He rooted one-handed through his luggage until he found his toilet bag, then pulled out sterile wipes and Band-Aids and taped his hand back together. Rachel was his wife's sister, and it really was nice of her to take care of his mom while he was down here, but that didn't change the fact that he couldn't stand the sight—or sound—of her. It just made him feel guilty about it. He thought of his mother, bald and skinny and all hollows now, in the bed at Sunnybrook, and he felt the tears that'd been pricking at his eyes for weeks come back. He squeezed them shut, hard, and took several deep breaths.

He made one more call, a local one, to Tomás Herrera's office, then unpacked his bag and stepped into the shower.

He'd found Tomás Herrera through the CultWatch Information Center. Leo had spoken to Herrera twice, by phone: once when he gave him the assignment, once when Herrera called back to say that he'd been unsuccessful in his initial investigation, and did Señor Kaufman want him to pursue the matter more . . . aggressively?

He'd talked it over with Mom, who had been very firm on the subject. She wasn't going to pay a bounty-hunter to kidnap her son. He would have to go and talk to him.

Never mind that he'd never been able to convince his brother to do anything. Never mind that none of them had. Who can say no to his dying mother?

Herrera had been very understanding about the matter, had offered to pick him up at his hotel and show him around San José, and discuss the matter.

He phoned up from the lobby and Leo pulled on shorts, cheap sandals and a T-shirt and went downstairs to meet him.

Bryan Kaufman had nothing to do with computers anymore. Officially.

Unofficially, there were times when the collection of ancient, cracked and dust-filled laptops that the community used for various purposes needed someone with the right touch to coax them into performing. There were times when Erasmo would come to him as he worked in the fields or the kitchen and tap him on the shoulder, speak quietly to him. Then, Bryan would spend a few happy days tinkering with the machines, pounding out code with work-calloused fingers or working on the guts of one of the cranky boxes with a soldering gun and tweezers.

Those times, his mind left his body and time melted away in an obsessive blur of meditative bliss. It was digital junk to him, all sweet and sexy and dangerous. Afterward, the return to his normal routine was always disorienting, as if he was coming back to something he'd stopped doing years before. By contrast, the computer shit felt like the most natural thing in the world, no matter how long he went between fixes.

"Bryan!"

He looked up from the deep pit he'd been digging, the new latrine for the community center. "*¿Sí?*" He shaded his eyes and tried to make out who was speaking to him. All he could see was a silhouette against a robin's-egg blue sky.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"*Venga. Erasmo dice que tiene que venir.*" Come. Erasmo says you have to come.

He put aside the *mecana* he'd been digging with—a cross between a shovel and a spear with a splintery handle—braced his legs against the pit's walls, and chimneyed up and out.

The other pulled back from the pit's edge as he approached, and when Bryan cleared the rim, he saw that it was Ronaldo, skinny and bare chested, with black indio eyes like polished beads. He was wearing a baseball hat with "Kiwanis 108 (Muncie) Annual Picnic 1996" badly silk-screened on the front. Bryan grabbed the hat and put in on his own head, tousling the kid's hair.

"Hey!" Ronaldo jumped for the hat. Bryan took it off and jammed it back on the kid.

"*Pués, ¿qué quiere Erasmo?*" So, what's Erasmo want?

Ronaldo shook his head and shrugged. The path from the community center to the office was well-worn and well-maintained, with careful drainage trenches down the sides and deep gravel in the middle. It went up and down two big hills, then over a stream with flat white stepping stones, and then under a canopy of fat bamboo and enormous poor man's umbrellas. In the green gloom of the canopy, mosquitoes sang loud and thick, and small animals scurried in the underbrush as they walked past. Bryan broke off a flexible branch and flagellated himself with it as they walked, smacking at the bugs and his bare legs with the leaves.

As they neared the office, the path was crossed and crossed again with side-trails leading to the residences, the fields, the river, the church, the school, the main road. People passed them by, some gringos and some Ticos, nodding and waving. Before he entered the office, Bryan took a gray-brown T-shirt out of his belt-loop and pulled it on. He knocked on the door-frame and then pulled open the screen door.

The office was the only building in the community with electricity, provided by the photovoltaic cells on the roof that fed the car batteries stacked on one white-washed wall. Its windows were crudely glazed with scrounged glass. Erasmo sat behind a desk made from chainsaw-cut planks and sawhorses, talking on a phone tethered to one of the batteries by a thin cord. He was neat and severe in creased chinos and a short-sleeved checked shirt buttoned to the top. His short hair was shot with gray, his fingers twisted and arthritic as he scribbled notes while he talked.

Bryan waited patiently against the door, mentally checking all the connections between the batteries and the phone, the fax, the terminal. They were wired with scrounged copper from dead stereos and TVs that he and Erasmo had found in a scrap yard in Heredia, back when the Federal ministry on whose goodwill they thrived decided that they needed a means of communicating that was faster than sending someone out to the community in a 4x4.

Erasmo hung up the phone and gestured at a chair. Bryan sat.

"Bryan, how are you?" Erasmo was a great believer in social niceties. They were part of the formal structure that bound his life together.

"I'm fine. How are you?" Bryan tried to be patient. He was always trying to be patient. Erasmo was the only one at the community who spoke English with him. He said it gave him a chance to practice.

"I am also very well. Where have you been working lately, I haven't seen you?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"At the community center. The latrines were getting ugly. We're digging new ones."

"Very good. Very, very good. It seems that these days, I hardly ever hold a shovel or pick in the fields. Too much office work. It gets in the way of the important things, I'm afraid."

"I know what you mean," Bryan said, and they shared a smile. He'd joined the community after living in country for a year. He came to Costa Rica to work as a code-warrior for Centro de Computación, one of the numerous software companies that sprang up when the Costa Rican Supreme Court ruled that copyright did not apply in matters digital. In that year, his traditional, scattered approach to life had metastasized into a full-blown chaos. He spent his days flitting from one half-done, half-baked project to another. Erasmo and his tightly disciplined community had changed all that, giving a hard-working, physical focus to his untethered energy.

Erasmo stared out the window at a group of children and dogs, leading two milk cows along to one of the pastures, laughing and horsing around. Bryan broke the silence. "You wanted to see me? What's up, one of the damn machines acting up again?" He tried to keep any unseemly hope out of his voice.

"Always. But that's not it. The private investigator, Herrera, has telephoned to say that he and your brother are coming up."

"My brother?" Bryan sat up straight.

"They want to convince you to leave with them, I'm afraid. This man, Herrera, we've had dealings before, he and I. He works for wealthy families from *el norte* whose children have joined so-called cults here. He has been known to use force."

"Force? That little rooster?" Herrera had come out to deliver a message from his family two weeks earlier, that they wanted him to return to attend his dying mother. Herrera was a skinny, short man in his late twenties with slicked-back hair, a cheesy mustache and *colegio*-accented English. Bryan had written a letter to his mother explaining why he couldn't come, but sending his love nevertheless.

"When you have money, it doesn't matter how small you are. A few US dollars laid across the palms of the captain of the local Guardia Rural is usually sufficient."

"So what should I do?"

"You know that I would never stand between you and your family. You must do whatever you need to do."

"Then it's settled. I need to stay here." Here, his life was full and simple, each day a rigid pattern of tasks defined and accomplished, every night a joyous recollection of work done well. Outside was Babylon, amorphous living in which he pushed himself harder and harder in a frustrating feedback-loop where his exertions crippled his ability to work.

"And your mother?"

"It is very sad. But if she understood what this life meant to me, she'd understand why I couldn't leave. She knows I still love her."

"What does this life mean to you, Bryan?"

"You know."

"I know, but tell me, anyway. Are you a member of my cult?" Erasmo smiled.

"I guess so, if that's what this is. I can leave if I want to, but I know what leaving would mean. Fast living is seductive. It's *addictive*. I didn't start off

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

living at the speed of light, but over the years, the televisions, the computers, the gadgets and toys made me crazy. It got so there was so much interesting stuff that I couldn't figure out what part of it, if any, was *important*. It's happened here, in your country. People who lived the same way for hundreds of years, poor but happy, are disoriented now. Their attention skips from thing to thing too quickly to enjoy any of it, and their lives are emptier for it. You let them know what is important."

"Am I so wise then?" Erasmo's smile broadened.

"No. I could do it, too. Almost any of us could. It almost doesn't matter what the pattern is, just so long as there is a pattern, and it's livable and fair. You taught me that."

Erasmo nodded and then looked away, suddenly embarrassed. He shuffled some papers on his desk, then fanned himself with them. Bryan tapped his feet, fidgeted with his fingers.

"Herrera, he will arrive tomorrow. He's bringing your brother. I've asked Ronaldo to meet them at the trailhead. He'll leave before lunch."

Bryan nodded, stared longingly at the fax machine, then stood and walked back out into the buzz of the jungle, flexing the digging cramps out of his fingers.

San José is a new city. Neighborhoods had been bulldozed wholesale and flexicrete towers thrown up overnight. The prefab slabs were veined with fiber-optics, and before placing them one atop another, the workmen had had to connect the datalines with clips from Taiwan. These clips came in hot-pink bubblewrap that was nearly indestructible, and it still blew through the narrow, crowded streets.

San José is an old city. Herrera led Leo through the lobby of an office tower, out the back entrance, then quickly turned down a street so choked with crumbling storefronts and thronged crowds that it seemed more like a queue than a thoroughfare. Another right turn, and they were in a tiny whitewashed plaza, a dry fountain in the center with a marble statue of the Virgin. Fresh flowers were at her feet, and around her were half a dozen carts, selling pork cracklings, shoeshines, bootleg non-volatile RAM cartridges with the latest Aussie soap operas, machetes, and rubber boots. Leo checked over his shoulder to make sure that the mirrored tower was still there. It was, barely visible through the dense stalls.

Herrera seemed to know everyone. He nodded greetings at groups of boys in school blazers and old, sad-faced *campesinos* with bundles made from rice-sacks slung over their shoulders.

"You know all these people?" Leo asked.

"This is my neighborhood; of course I know them." Herrera said impatiently. Leo didn't notice the impatience, though. His mind was churning: Herrera lived here. These people lived here. Somehow, it had all seemed like a sound-stage to him, a movie set filled with extras who, at the end of the day, went home to apartments that looked like his, where they spoke English, ate hamburgers.

Herrera led him into a tiny cantina through a set of swinging half-doors and around a baffle that kept the interior invisible from the street. Inside, it was dim and smoky, groups of men in twos and threes standing at the bar or clustered around tall tables. Through some means that Leo couldn't make out, Herrera communicated an order to the stooped Chinese bartender, who came to their table with two sweating brown bottles of Cerveza

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Imperial, the labels embossed with an incongruous screaming fascist eagle, and a basket of deep-fried pork skins.

Herrera and the Chinese spoke quickly in Spanish, and it was another shock to Leo. The Chinese in his suburb in Toronto were second-generation Hong Kong, rich and well-educated and neat as cats. This man was brown as a Costa Rican and waved his hands with the same flamboyance as the locals when he spoke.

Herrera unobtrusively passed a roll of tattered, grimy Colones to the Chinese, who grinned and ducked away.

"Excuse me," Herrera said. "The owner," he nodded at the Chinese, now pouring out shots of rum at the bar, "and I do some business from time to time.

"Now, about your brother."

"Yes?" Leo tried a tentative sip of his beer. It was dark and strong, nothing like the watery Coronas that trendy patio-bars at home served.

"He is living in a farming commune in the north, near the Nicaraguan border. I have visited the farm, and spoken with the community's leader, with him, with some of the people he lives with."

"Yes?"

Herrera picked up a pork-rind, squeezed a wedge of lime on it and dipped it into a bowl of murky brown sauce, then crunched it down. "He is happy there, I think. He works long hours, doing physical labor in the fields. He doesn't smoke or drink: no one in the community does. He says he has no woman, and I didn't see anything that made me think he was lying."

"So he's there because he wants to be?"

Herrera considered for a long moment, picked at the label of his bottle, scratching off the eagle's head. "I did not say that."

Leo was at a loss, so he tried a pork rind himself. It was hot and greasy and tangy, and the brown sauce had a fantastic blend of spices. Suddenly he was very hungry, the honey-roasted peanuts on the Air Lacsa flight hours behind him, and he scarfed up half a dozen more. It meant he didn't have to think about what Herrera was saying to him.

"He's there because he wants to be. . . . Tell me, what is want?"

Leo nodded for him to go on, opting out of the Socratic dialogue.

"Can we say he wants to be there, even if his reason for wanting it is a bitter old man who has convinced him that leaving would ruin his life?"

"What do you mean?"

"I've dealt with this man, Erasmo, before. My wife's brother lived with him for a time. Getting him out was . . . difficult."

This day should be no different from any other. A tenet of Bryan's discipline held that the most important thing was setting a routine and following it. If your schedule calls for picking beans in the morning, filling in malarial still-waters in the afternoon, and teaching children to write in the evening, that's what you should do. Never mind that while your mind is in the muggy haze of stooping and picking you may think of a terrific new joke—wait until lunch to find someone to tell it to. Never mind that something a kid says while struggling with cursive writing gives you a terrific idea for tweaking a handwriting-recognition algorithm you were working on ten years before. Those days are behind you and you don't have any call to leave the kid behind with his chalk and slate and beg Erasmo for one of the laptops.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

So. Routine. Rise at six when the sun is still ruddy on the horizon and the howler monkeys have just started their morning hoot in the hills. Rise into the only cool of the day, when the planks of the house are damp and gritty on the soles of your feet, and work the kinks out of your body, stretching out on the floor in a pair of grubby shorts.

Bryan forced a false excitement into his step as he walked out onto the porch of the house he shared with three other single men and hopped down to the muddy ground. The house was raised on one-meter stilts, above the floodline of the river at the peak of the rainy season, and a dozen chickens roosted underneath it nightly, patrolled by a bandy, ill-tempered rooster. It ran out now, aiming pecks and kicks at Bryan's bare legs. Without really noticing it, he gave it a kick in the head with his muddy gum-boots that sent it reeling. This, too, was part of the routine.

Routine. Over to the well, lowering the bucket, then hauling it back up, using the first bucket-load of tepid water to soak his head, the second for a long drink and to moisten his toothbrush.

The toothbrush was part of a running battle. The community couldn't manufacture its own toothbrushes, so their use meant reliance on the outside, but Bryan maintained that gum abscesses and root-canals were a much greater dependence. Erasmo had remained neutral on this, but his teeth were cleaner than most, and Bryan had never caught him gathering and rinsing roots to massage his gums with, as the anti-toothbrush camp did.

Routine. It was Bryan's day to muck out the latrines and tidy the public spaces, so he went to work hauling water and filling three fifty-gallon drums. Later, he would get Ronaldo to round up a dozen kids to move them over to the cleaning spots and scrub with him on hands and knees. It was good, sweaty work and Bryan relished taking a shit in a stink-free latrine and a shower in a sparkling clean stall when it was done.

Today, before the shower, he would shave and trim his hair and after, put on his good slacks and good shirt, because his routine of this day said that he would be meeting his brother after lunch.

But that was just part of today's routine.

Herrera drove an immaculate white Jeep 4x4 with an electrified, lethal-dose security system, one-way opaque tinting, a phone, a global positioning system and a data-link to a Costa Rican music service. He drove like one of Leo's high-school football buddies, like he owned the road and the little old ladies with their enormous bundles and the campesinos riding bicycles with machetes on their hips and tattered knapsacks were totally expendable. Miraculously, he never hit them, despite breakneck speeds and attention divided by punching buttons on the music system, cycling between brassy salsa and superfast reggae and wailing mariachi guitars.

Inside the car, in the neutral-scented, upholstered interior, the scenery speeding by seemed unreal. Seemed like scenery. Wreaths laid at roadside commemorating traffic fatalities (no longer the highest per capita, Herrera told him; Prague now held that honor); fruit stands; tourist billboards; a valley where the constant winds had bent everything—trees, grass, even the grazing cows and horses—to a 40° angle, like the world itself was tilted; giant statues of Christ, arms outstretched.

"Your brother, he is younger than you?" Herrera said, passing a lumbering bus on a blind mountain curve. Leo shut his eyes.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Older. Two years."

"Ah."

Leo stared at the global positioning system and watched the latitude and longitude scroll by.

"You two were close?"

"Not really."

"That's a shame." Herrera sounded as though he meant it, as though the importance of the family was more than a cliché. Leo felt the irrational need to defend himself.

"We were very different children. He was the smart one, I was the strong one. He played with computers and stayed out all night at parties and I studied and played football. There wasn't much for us to talk about, I guess."

"Uh-huh."

"Yes."

"Yes. Well, your family seems very anxious for him to return. You understand that there are . . . resources available to us that can assist us in reaching this goal?"

"Uh-huh."

"Yes."

"Yes. Well. My family wouldn't want to use any kind of force." Beyond the force of guilt, of course, Leo thought. That was always fair.

"Force!" Herrera blew out a sigh, like this was the most ridiculous thing he'd ever heard. "Force. No, we don't need force. All it takes is a word in the right ear that your brother's visa should be re-examined. That would likely do the trick. Or perhaps a suggestion that the services that FundeNort, the development agency, extends to the community, is being spent poorly. How long will the cult's leader keep your brother around if his presence threatens the community?"

Leo felt a surge of hope. Here was the doorway out of this particular unpleasantness. A brief word with his brother, give him the chance to come voluntarily, and if he refuses, have him expelled. He would come home, of course. Where else could he go? "Very interesting. When will we arrive?"

"If the road from Upala hasn't washed out, some time after lunch."

Some time after lunch. When did they eat lunch in Costa Rica? Back home, people used actual time for appointments. Here, it was always some time after lunch.

The community very carefully failed to notice Bryan's immaculate grooming during lunch. Sylvia, standing behind her giant cauldron of beans and rice, wordlessly ladled a portion onto his plate. He ate it sandwiched in between Bolivar, who normally told him dirty jokes he'd heard from the gangster kids at the cantina in Colonia-Puntarenas, and big Diego, who normally pestered him with ill-informed questions about computers, like why couldn't a computer take over the world and make humans into slaves? Today, they muttered about the bean crop and Sylvia's voluminous pregnancy.

For his part, Bryan ate in silence, contributing nothing to the discussion. He finished half the food on his plate, scraped the remains into the compost bucket, and left the dining hall.

As he walked to Erasmo's office, he tried to see the community through fresh, northern eyes. He could almost do it, almost dispel the familiarity of the worn trails, the peeling paint on the shacks, the sagging strands of

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

barbed wire that the village cows largely ignored. Almost. But just as he started to get a taste of the foreignness of it all, the familiarity snapped back overtop of his vision, and the exotic was again mundane.

Erasmo wasn't in his office. The fax was purring and vomiting a continuous ribbon of thermal paper. He resisted the temptation to tinker and sat to wait.

They had to walk the last ten klicks in. The road dead-ended at a trailhead that led through a dense, swampy bush. A wiry, bare-chested boy in a straw hat with a disquieting stare was waiting for them, aimlessly swiping at the tall grass on the trail's edge with a stubby, dangerous-looking machete. He and Herrera exchanged words in very fast Spanish. Leo caught "Señor Kaufman" and realized that he was on the verge of seeing his brother again.

Herrera gestured at him and they started down the trail. Ten meters in, his tough nylon hiking boots were sinking into sucking mud. A few paces more and he was sinking to his knees. He looked at the child, at Herrera. Herrera was wearing gum-boots, the child, too, his bare calves chafed where the boots' tops rubbed. Leo trudged on.

This place was not like the jungles of the action flicks. It thronged with stinging insects, and the mud was some kind of russet clay. He was expecting a village, a compound of bamboo huts like *Gilligan's Island,* but instead, he caught glimpses of wooden shacks on stilts, scattered unevenly through the brush, hundreds of meters apart.

As they penetrated deeper into the swamp, he caught sight of people on side-trails, children carrying huge bundles of sticks, a little girl in a tattered dress with a squealing piglet in her arms, a serious-looking man built like a fireplug, dragging a bull by a length of thick rope.

The air smelled wet, like the first drop of rain on hot pavement, and he found himself glancing up at patches of blue, blue sky visible in the gaps in the canopy.

The hike lasted two hours. After the first hour, the trail turned into gravel, thick and solid, and the mud on his boots began to dry. When the child stopped, Leo's shirt was soaked through with sweat, his boots encased in spheres of dried mud.

They were at a crossroads, where the gravel trail met two others, and the brush was cleared away, so that he could see a few huts; a large, un-walled area where people sat at long tables and ate; tin-roofed latrines. Two men left one of the huts, a concrete blockhouse with solar panels tiled on the roof, and approached them. One of them took off the kid's straw hat and ruffled his hair, absently, put the hat back. The kid ran off.

One of the men was older, his face seamed and lined and the color of mahogany. The other was taller and stockier, broad-shouldered and likewise muscular. Both wore worn, pressed shirts and slacks, and scuffed work boots. Their faces shone greasily, slick with perpetual sweat, and Leo was very aware of the sweat coursing down his own neck.

They simply stared at each other for a tense moment, Herrera and Leo on one side, the two on the other, an invisible line between them like a schoolyard challenge. Herrera stepped across the line and all the rest of them jolted, ready for confrontation.

Herrera put his hand out to the old man, whose eyes were runny and yellow, and said, "Don Uriarte."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

The man shook his hand, his unblinking gaze locked on Herrera's. "Señor Herrera. Mucho gusto."

The other man stepped forward and took Herrera's hand. "Señor Herrera," he said, his voice husky, almost choked. Leo looked at him and had a flash of recognition just as Herrera said, "Señor Kaufman. Mucho gusto."

The other man looked at Leo, and Leo looked back. Looked back at his brother.

Bryan took Leo's hand and shook it, then pulled him into an embrace. "Good to see you again, kid," he whispered into his brother's ear.

Leo pulled back involuntarily and stared at his brother. Bryan had always been a little chunky, but the permanent love-handles he'd lugged around all the time that Leo'd known him had melted away, and he was *wiry*, Jesus, and skin gone leathery and nearly the color of the soil underfoot. With his brown eyes and hair, he could've been a Costa Rican.

Leo was suddenly acutely conscious of how his own gut had been spreading out since he'd graduated from university and went into teaching, giving up football except for weekends and fewer of those.

Bryan slipped his arm around Leo's shoulders and tousled his hair, like he'd done to the kid who'd guided them.

"Good to see you, too, Bryan," Leo managed.

"C'mon, I'll show you around."

They passed between the other two like running a gauntlet, and the crunch of their boots on the gravel was as loud as anything Leo'd ever heard.

"Here's the community center, we hold night classes and dances and soccer matches and meetings here. It's got its own well, concrete floor, block-and-rebar walls, tin roof and a drop-ceiling."

"You sound like you built it with your own two hands." They were skirting the issue of their mother with remarkable facility, walking from nearly identical building to nearly identical building, while Bryan babbled like a used-car salesman.

"I did. Me and the rest. I milled the lumber for the roof with a chainsaw, and planed it true by hand, mixed the concrete with a shovel, hauled in the gravel in fifty kilo sacks. It was the first thing I did here. Every night, I was sore enough to *die*." Bryan patted the peeling, pukey-green paint with a proprietary air. Hesitantly, Leo reached out and touched the cool brick, felt its solidity.

"So, how'd you learn all this?"

"You know, just picked it up, helping out." Leo smiled. Bryan had always learned things by "just picking them up"—he'd nearly failed out of high-school math and computer science, despite the fact that he was working on the side on projects for some of the biggest high-tech companies in the world.

"Come on, I'll show you where I live," Bryan said, taking off down the trail. The back of his shirt was dark with sweat, and his shoulders flexed underneath it as he walked. Leo shook his head and marveled, then jogged a little to catch up.

"How're things in Toronto?" Bryan asked, not turning his head, not looking into Leo's eyes.

"Good, good. Tracey wants to have kids, she thinks. You could be an uncle in a year."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"That's *right,* you're married! Tell me about her! Is it true love?"

Leo stole a look at Bryan, to see if he was being sarcastic. His brother was wearing an expression of rapt interest and genuine pleasure—more genuine and focused than Leo had ever seen him. "Uh, I guess so. I mean, we've been together for three years, three and a half. Got a little house in Downsview, not far from the subway. We take vacations together," he was faltering, losing his train of thought. "Mom likes her a lot." The words dropped from his mouth like stones.

There it was, out in the open.

"That's good. That's very . . . good." It was Bryan's turn to be tongue-tied.

They walked over a hill, and Bryan failed to return the waves of a group of people they passed. They were very brown. Leo felt very white.

"She really wants to see you, Bry."

"That's too bad." He didn't sound at all snotty or nasty, just resigned and sincere. Leo was getting sick of sincerity.

"What's that mean?" he asked.

Bryan stopped and looked around at the trail, at the buzzing jungle, at the slices of absolute blue sky visible through the gaps in the canopy, and it seemed to Leo like he was drawing in strength from it all. He kept doing it, for long uncomfortable moments, and just as Leo was ready to give up and yell or swing at him or anything to break the silence, Bryan drew a breath. "It means that I can't go back. I need to be here. It's keeping me sane, Leo. And there's a part of me . . . there's a part of me that doesn't want to *be* sane," he said the last in one quick breath. "There's a part of me that wants to go out and geek around and party and watch a lot of TV and run around like an asshole. It's a very strong part of me. I'm not strong enough to fight it, alone. I *must* stay here." He was shaking, and his hands had gone to fists. Leo backed off a step and ended up tripping over a drainage trench on the trailside. Bryan helped him back to his feet and then walked off, more quickly, more tense.

Leo caught up with him and had to jog to keep pace. They came to a shack on stilts, girdled with a warped porch. Bryan hopped up onto the porch and held out a hand for Leo.

"This is where I stay."

Leo peered around in the gloom, at the simple cots under boxy mosquito nets. Each bunk had a few items tacked up above it, and one had a photo from Leo's wedding—his mother must have sent it down. Leo peered at it, saw how *young* he looked, and that was what, only three years ago.

"Wish I could've been there, bro," Bryan said softly from behind him. "She's a cutie."

"We sent you an invitation. Mom would've paid the airfare. You never answered." Bryan almost never wrote back when they wrote—three letters in seven years, all of them terse and full of sterile cheer.

"Will you lay off?" Bryan said, nearly shouting. "I don't *need this.* I had a *problem.* I *fixed* it. Why can't you all just *respect that?*"

Leo felt the old heat coming into his cheeks, the irrational rage that had boiled his guts every time he and his brother had fought when they were kids. "What *problems,* Bry? What makes your problems so special, huh? How come you get to solve your problems by hiding here in shitsville and the rest of us have to face up to ours? You think *I* don't have problems? You think *Mom* doesn't have problems? She's dying, for chrissakes, your fucking *mother* is *dying* and you won't come home to see her before she *dies?*" Sweat

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

poured down Leo's neck and soaked his collar. The smell of mold that permeated everything filled his nostrils and choked him, and he felt his head go light. "You always were a selfish shit, Bryan, but I never thought you were this selfish," was the last thing he said before he collapsed with heat stroke.

Bryan kept one eye on his brother and one on the window, listening to the sounds of everyone else's blessed routines. Waiting for his brother to regain consciousness wasn't on his schedule for that afternoon.

When his brother stirred, he knelt next to him and lifted the corner of the mosquito net, helped him to sit up. "Here," he said, putting the rim of a squeezable water-bottle to Leo's lips, "drink this."

Leo sucked on the bottle while his eyes tried to focus. The rehydration drink was made from sugar and water and some salt and lemon juice. If Leo could suck back two liters of it before supper and two more after, he'd be fine by morning. If he didn't, he could sweat himself to death.

Leo's eyes snapped to his, and he sat up straighter under the threadbare blanket.

"Drink," Bryan said, and tipped the bottle back. Leo drank. "You've got heat stroke. You should've been drinking water all day—didn't Herrera have a water bottle for the trek in?"

"No," Leo said, water slopping down his chin, making a stain on his shirt. "He didn't."

"You don't hire good help, that's what you get," Bryan said with a wry smile. Suddenly, he felt better—he was helping his brother get better in a world he'd carved for himself: undertaking a finite, contained task.

Leo pushed up, started to stand, and Bryan planted a palm on his chest. "No, no, stay in bed. You need the rest. Drink."

Leo didn't drink. He threw off Bryan's hand and stood up. He wobbled a little, straightened, and started to pace up and down the corridor of the dorm. Bryan rushed to his side.

"Sit down, willya? You've had heat stroke, you gotta rest. Here, drink."

Leo took the bottle from him and drained it, handed it back without a word, kept pacing. Bryan reached for his shoulder, and Leo shook off his hand.

"Jesus, sit the fuck down. You want to kill yourself?"

Leo shook his head at him, negating everything, his life there, his very existence, and it took everything Bryan had not to pick him up and throw him on the cot, the way they'd chucked each other around when they were kids. Instead, he went out on the porch.

The sun was thinking about setting, sloping low in the sky, casting the shadow of the mountains over their little valley. Bryan hopped off the porch and unconsciously kicked away the bandy rooster, went to the well to draw a bucket.

Herrera was leaning on the well, sunset glinting off his aviator's glasses, casting shadows into the acne pits in his cheeks. He nodded smoothly, his face smooth, the lenses of his shades perfectly smooth.

"*Hola,*" he said.

"*Hola, Señor Herrera.*"

"Where is your brother?"

Bryan jerked a thumb over his shoulder. "Resting inside. He passed out from heat stroke. Why didn't you give him water on the way in?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Herrera shrugged and turned back to watch the sunset. "I didn't have any," he said at length. "I thought you'd meet us with horses."

Bryan switched to Spanish, growing angrier. "Our horses are for work, not to bring in police informants and tourists. You knew that."

"Which one am I," Herrera answered, in English. "An informant or a tourist?"

"You're a sneak, Señor, a rat. If it wasn't for you, none of this would've happened." Bryan was still speaking Spanish.

"So? Is a family reunion such a bad thing? You should thank me for bringing your own brother here."

"You want to help him kidnap me."

"Kidnap you? Ha! No one's talking about kidnapping. I don't need to kidnap you. How long will your Erasmo keep you here if FundeNort cuts off assistance to the community? What if the police were to come and check everyone's papers, and the tax-assessors check into all the records, and the building inspectors to check all the buildings, and the education inspectors come and see the little kids, see their schools? What would Erasmo say if it was the kids or you, huh?"

"You stay away from the kids! You stay away from here! If you fuck me, I'll fuck you back, Señor, and harder. How'd you like it if a warrant for your arrest just appeared in the San José databases? Or if your electric bill had two zeroes added to it? How would you find rich gringos to bleed if you had no phone, huh?"

Leo watched his brother argue from the doorway of the shack. He was woozy, and he had to piss, but he couldn't bring himself to interrupt. He could only understand Herrera, but even when his brother spoke Spanish, Leo knew what he was saying—he had the same gestures, the same tension in his neck, the same shrill, breathless rhetoric.

Herrera laughed. "Oh yes, Mr. Hacker, you'll work your computer magic. I'm terrified. How long has it been since you plugged into the net, Mr. Kaufman? How long has it been since you were hot shit? Do you really think that we're all ignorant beaners like these *campesinos* you live with? Mr. Kaufman, my little daughter is more dangerous with a computer than you are." Herrera said, and smiled at Bryan, leaning in, getting right in his face. Leo waited for his brother to clock him.

Instead, Bryan turned on his heel and stormed away, down a trail into the bush and out of sight almost instantly.

"Fuck," Leo said under his breath, as the truth of Herrera's tauntings hit him. His brother had been away from computers for seven years—a lifetime by industry standards. What was he supposed to do back at home? Be a bamboo carpenter? A ditch digger? Even if Leo could drag Bryan home, he'd have to come back here. He had no life at home.

He was sweaty and angry and totally disoriented by the quickening twilight. He jumped off the porch and was attacked by the rooster. Herrera saw his predicament and laughed a little and came over and kicked it away.

"My mother, she had a rooster like this one. The only thing it was afraid of was a broom."

"What did you antagonize him for? You're making it harder for me."

"Harder for you? Why does this have to be hard at all? We'll just bring in someone from the Guardia Rural and he'll be gone by morning. I plan to be gone by morning, at least—this place is a hole."

It was a hole, shacks like Dr. Seuss illustrations and clouds of insects and

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

grubby kids with machetes, like some kind of apocalyptic caveman settlement. Even so, Leo felt the irrational need to defend it. "It's not so bad. Do you know where we're staying tonight?"

"You'll have to ask your brother. Or we could walk back to the car and sleep there."

Leo tried to imagine making the muddy slog out to the car in the rapid gloom, no flashlight, his head swimming, and decided he'd have to find Bryan. "Do you really think your friends in the police can fix this?"

"I'm sure of it. I am a professional."

Leo took off down the trail that Bryan had taken, his body going slimy with sudden sweat, and all light vanished a few quick steps into the canopy. He felt along blindly, trying not to panic. A light appeared over his shoulder. He turned around and saw the boy from that morning, Ronaldo, with a candle in a bamboo holder.

"Hey!" he said, "Hey, where? is? Bryan?" He spoke very slowly.

"Bryan?"

"*¡Sí!*"

The boy took his hand, all callus and strong fingers, and tugged him through the jungle. They came to the building he'd seen earlier, with the solar panels on the roof. The old man, the cult leader, was standing on the porch, staring into the gloom, his face all peace in the flickering candlelight.

The boy said something in Spanish, and the old man turned to him.

"You're looking for your brother? He went to the community center. I understand that you took sickly, I hope that you're drinking water."

"Yeah, sure. Where's the community center?"

"No, really, you need to drink water. Wait here." He entered the building and came out a moment later with a tin cup. Leo suddenly thought of parasites and worse, and looked into the darkness of the cup. "It's purified, don't worry. It's important that you drink." The man's English was slow but unaccented, and he sounded as if he genuinely cared.

"Thanks," he said, draining the cup. The old man took it from him, reentered the building, and came out with two folding chairs and a water bottle.

"You can have this, it is a spare. Please, sit."

"I really should find my brother," Leo started to say, but the old man held up a hand.

"I don't think Bryan wants to be found, Señor. When he does, he will find us. There is no hurry, tonight."

Leo sat, reluctantly, and they sat together, separated in the darkness, surrounded by the teeming jungle sounds—bugs and scurrying animals and someone singing in the distance and the restless grunting of pigs from another direction. It was muggy and sticky, and insects buzzed around his head, mosquitoes lit on his arms.

"You are a teacher?"

"Yes, back at home. I teach elementary school, ten year olds."

"We have lots of children here. Your brother teaches them sometimes. We take turns. We love our children very much."

"My wife and I are thinking about having one."

"That would be wonderful, I'm sure."

"Yes."

"Yes."

"Well."

"So."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"What did you do, before you came here?" Leo asked.

"A little bit of everything. I was born not far from here, and I was a carpenter in the city when I was young, and then there wasn't any work for a carpenter, so I picked coffee, and then I came home and helped on the farm, and then I was a guide at a cloudforest reserve. That is how I learned English, you see. I also speak German and French, but it is, what do you say, rusty."

"Ah. All the children back home learn French in school." Thinking, *I do not want to be having small talk with this guy.*

As if sensing his impatience, Erasmo changed the subject. "You want to take your brother away from us."

"Yes, I do. He needs to come home and see our mother. Don't you think a son should see his mother before she dies?"

"Of course I do. I said this to Bryan. But he doesn't want to go. It's not my decision to make." He spread his hands helplessly. Leo felt his shoulders tense.

"You could tell him he had to go. You could send him away. It's wrong for him to stay here. If he doesn't come on his own, we'll have to take him. It will be unpleasant for you, for your community." He had the sense that they were both choosing their words carefully.

A group of children tore through the clearing in front of the hut, shouting and charging fearlessly through the gloom. Erasmo waited until their hoots had faded into the distance. "Sir, I wish you wouldn't threaten me. I will not permit harm to come to this group of people."

"I don't know that you'll have a say in the matter."

"But I will. You think I don't know how to fight? You think that these people won't fight to keep themselves free? When I first came here, this village was failing. The farms were blowing away, the farmers were losing their land in tax court, guerrillas from Nicaragua and counter-forces from the US were fighting in the bushes. It was like Hell, sir. I made it better. I used connections in the capital, I used sympathetic computer-hackers, I used the media. When we had to, we used guns. For over ten years, we've prospered here. We're the best thing that has happened here since Columbus. Sir, if you threaten us, if you threaten our autonomy, we will fight. And we will win."

They both heard someone clapping, then. Herrera emerged from the gloom, slowly slapping his hands together and grinning sardonically. He had a small keychain flashlight in one hand, and it cut arcs through the darkness.

"Quite a speech, Erasmo. Leo, don't worry about this old shit and his farting. We will have your brother out of here within forty-eight hours. This dog can bark and bark, but he has no bite. The people here are ignorant little *peones,* little insects." He slapped at a mosquito on his hand. "They can't stop us."

Erasmo said something calm in Spanish, and Herrera answered back, a short, quiet sentence. Erasmo countered with something that made Herrera start, then shout back at him. Erasmo just shook his head, slowly, and Herrera rushed him. Erasmo had time to shout a single word before Herrera smacked him in the head, forcing it back into the cinderblock wall. Erasmo wobbled and Herrera punched him in the stomach, and then a dozen figures were on him, dragging him to the ground. His flashlight spun away and Leo leapt clear of the melée, shocked wordless.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

* * *

Bryan buzzed at Erasmo's desk, almost vibrating with anger. His fingers pounded out note after indignant note on the laptop's keyboard, the fax purred nonstop, and he shouted down the phone. In five hours, he'd contacted six human rights organizations, three consul generals, the captain of the local Guardia Rural, his superior officer, *his* superior officer, Interpol, and CultWatch International. A shitstorm whirled around him, and he spun widdershins against it, arranging for affidavits to be entered at Herrera's bail hearing, for payment on Erasmo's hospital bills, and for a subpoena on Herrera's personal books.

When he'd been a hacker in San José, helping Erasmo out as a side-project, he'd learned several effective means of penetrating the bureaucratic morass of Tico government, and they all flowed back into him. Ronaldo kept him well-supplied with endless cups of coffee.

When he went out to take a piss, the latrine was filthy. It was his job to clean it. He didn't have the time. The hospital in Upala was overwhelmed with a new strain of dengue, and he was sure that if he didn't prod them every hour, that Erasmo would be forgotten on some back ward. The old man was badly concussed, and confused. They'd packed him out on horseback the night before, then driven him to town in Herrera's Jeep. Herrera, beaten and fractured, had also ridden to the hospital, and it took hours to convince the Upala cops to throw him in a cell and send for a prison doctor, but Bryan knew what names to throw around, how to frame the situation so that they would see the wisdom of his position.

Ronaldo came in and stood patiently beside him until he finished threatening the editors of CultWatch, then said "Your brother wants to see you."

"Shit. Bring him in." He rubbed his eyes. "Thank you, Ronaldo."

The boy led Leo into the blockhouse. Bryan was sitting behind the desk, in a clean shirt. Leo had been stuck in the community center since the fight, and his own clothes were grimed and sweaty.

"What is it, I'm busy," Bryan said, without looking up from a fax he was reading.

"I wanted to know how Mom was."

"How am I supposed to know?" Bryan's eyes were glazed, his hands twitched nervously. Leo suddenly flashed on a time, back in Toronto, a lifetime ago, when he'd come by Bryan's office for lunch, and found him deep in a problem. It had been nearly impossible to get an answer out of him, and he hadn't taken his eyes off the screen once. At the time, he'd been angry, thinking that Bryan was snubbing him. Now, though, he wondered. There was something . . . out of control about Bryan.

"You haven't called home?"

"No. I'm busy with the shit that you brought down here. Erasmo has a concussion, and Herrera's being investigated for tax fraud." The phone in his hand rang and he held up a finger and flipped it open. "*¿Sí?*"

He fired a rapid stream of Spanish down the phone. Leo watched his face: it was almost comical in its animation, full of intense, broad expression.

"That was the Costa Rican Immigration and Naturalization service," Bryan said. "I'm going to be a Costa Rican citizen."

Leo wasn't ready to process this information yet. "I need to use the phone, I need to check on Mom."

"You've really fucked up, Leo. Herrera could've died, you know that? I

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

was ready to kill him, so was half the village. Why couldn't you just leave us alone?"

Leo ignored him. He wasn't in any mood for a lecture. "Give me the phone, okay? I really need to check—"

"Here, call, go ahead. I'll get you a fucking BellCan operator. And then we're shipping you out. Ronaldo will see you to the trailhead. There's a bus that comes at dawn and dusk. It'll get you to Upala, you can get transport to the city from there."

He got the hospital's automated patient-status line. A computer read off the prognosis. Bryan was chewing on a fingernail and drumming the fingers of his other hand on the desk, doing everything but saying, "I need to get back to work." Finally, he stood up and stormed out. Leo listened to the rest of the report, then tried unsuccessfully to get the BellCan operator back, to call his wife and tell her he was on his way.

He walked out, to find Bryan.

Bryan was staring into the mountains, smoking a cigarette. "I gave these up years ago, you know? Damn. After I get you shipped out, I've got to get into Upala to see to Erasmo, wait until he's ready to come home, *then* I've got to turn around again and get to San José for the swearing-in." He started to tick off items on his fingers, and Leo realized that he wasn't talking to him, he was thinking aloud. "Joaquin can hold down the fort here for a few days. I'll get my clothes laundered in San José for the ceremony."

Finally, Leo grabbed him by the shoulder, looked into his eyes. "They don't think she'll last more than a few days," Leo said, ashen.

Bryan looked at the waterbottle in his hand and gave a satisfied nod. "You're still drinking water?"

"Didn't you hear me? She won't last more than a few days more! We have to get back, we have to leave, we have to go, now."

"I can't go anywhere. You saw to that. I have to deal with the consequences of your stupidity. You will go, though. Ronaldo!" he said, sharply. The boy appeared, scrawny legs and tall gumboots and that stubby machete.

Leo looked at Bryan. There wasn't a shred of recognition there, just a kind of barely restrained whirlwind of activity. Leo had seen Bryan like that before. Over and over again, back at home, focused on some damn thing or another, focused with all of his energy, until, one day, he was suddenly focused on something else.

"Goodbye," Bryan said. "Give Mom my love." He mechanically pumped Leo's hand.

Ronaldo took Leo's other hand and led him away, down the trail to the main road. Leo turned around after a few steps, but Bryan was already back at his desk.

Erasmo greeted Bryan at the bus stop. The old man looked miles better than he had when Bryan left for San José, only six days before. Bryan felt a weight lift from his chest.

They embraced, and Bryan was shocked by how frail, how old Erasmo felt. "It is good to have you home," Erasmo said.

"It's good to be home. Let's walk."

They were at the trailhead, at the bus stop, and they struck off into the bush in lock-step.

"You wouldn't believe how much I got done in San José. Herrera's been

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

written out of the CultWatch directory, his car's been seized, his house was searched—"

"You did all this?"

"Damn right. He won't be hassling us any time soon."

Erasmo swallowed audibly, as if eating his response. He walked on, head down, and said, "I don't think that was right."

"What?"

"We went to the police. They charged Herrera with assault. The courts, they decide the rest. There was no reason to interfere. You were supposed to go to San José for the citizenship ceremony, not to run around like a, a *vigilante,* hounding this man."

"*What?* Erasmo, I was only making sure that he'd stay out of our way, leave us alone, stop bothering us. I was only trying to help—"

Erasmo held up his hand. "You were caught up in doing it for its own sake, Bryan. What did you used to call it? A sweet hack. You were just pissing around. I say this to you as your friend: you are fooling yourself, maybe, but it's not right."

Bryan felt the color drain from his cheeks, and he bit down on the shout that rose in his throat. The sounds of the jungle rose around him, and they were alien to him. As they walked, he found himself counting their steps, calculating how long it would take to reach home. The numbers droned in his head, until he fell into an angry trance, and through that trance floated unwanted intruders: the cover story from the New York *Times* that he'd browsed at the Sheraton's newsstand; the glossy shrink-wrapped covers of the software on the shelves of a computer store near the Plaza de Cultura; a joke he'd heard; a new pop song that rattled out of every boombox in San José, all swirling/whirling together in his mind until he had to shake his head violently to break out of it.

Erasmo looked at him with concern. "How is your mother?"

"She died on Wednesday. I sent flowers. Leo was very angry on the phone."

"Did you speak to her, before?"

"I tried, but she was unconscious for the last few days."

"That is very sad."

Bryan couldn't think of anything to say to that. He walked and walked, and went back to counting his steps, and the jumble of distractions filled his mind anew.

His thoughts whipped and tumbled, and somewhere in that mass was the certainty that he might be going back to where he lived, but it wasn't his home. It never had been.

He lost count, started fresh from zero, and tried to figure out his routine for the rest of the week. O

READERS: If you are having problems finding Asimov's Science Fiction at your favorite retailer, we want to help. First let the store manager know that you want the store to carry Asimov's. Then send us a letter or postcard telling us the full name and address of the store (with street name and number, if possible). Write to us at: Asimov's Science Fiction, Dept. NS, 6 Prowitt St., Norwalk, CT 06855-1220. Thank you!

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Stephen Baxter

THE GRAVITY MINE

The author tells us the following story "is a pendant to my novel *Time*, which came out from Del Rey in January. This is the first of my *Manifold* series. My other recent publications are *Mammoth* from HarperCollins (December 1999) and my collaborative novel with Arthur C. Clarke, *The Light of Other Days* (which was released by Tor in February). A busy few months. I plan to spend the next year in a sensory deprivation tank recovering."

Call her Anlic.

The first time she woke she was in the ruins of an abandoned gravity mine.

At first the Community had chased around the outer strata of the great gloomy structure. But at last, close to the core, they reached a cramped ring. Here the central black hole's gravity was so strong that light itself curved in closed orbits.

The torus tunnel looked infinitely long. And they could race as fast as they dared.

As they hurtled past fullerene walls they could see multiple images of themselves, a glowing golden mesh before and behind, for the echoes of their light endlessly circled the central knot of spacetime. "Just like the old days!" they called, excited. "Just like the Afterglow. . . !"

Exhilarated, they pushed against the light barrier, and those trapped circling images shifted to blue or red.

That was when it happened.

This Community was just a small tributary of the Conflux: isolated here in this ancient place, the density of mind already stretched thin. And now, as lightspeed neared, that isolation stretched to breaking point.

. . . She budded off from the rest, her consciousness made discrete, separated from the greater flow of minds and memories.

She slowed. The others rushed on without her, a dazzling circular storm orbiting the exhausted black hole. It felt like coming awake, emerging from a dream.

Her questions were immediate, flooding her raw mind. "Who am I? How

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

did I get here?" And so on. The questions were simple, even trite. And yet they were unanswerable.

Others gathered around her—curious, sympathetic—and the race of streaking light began to lose its coherence.

One of them came to her.

Names meant little; this "one" was merely a transient sharpening of identity from the greater distributed entity that made up the Community.

Still, here he was. Call him Geador.

". . . Anlic?"

"I feel—odd," she said.

"Don't worry."

"Who am I?"

"Come back to us."

He reached for her, and she sensed the warm depths of companionship and memory and shared joy that lay beyond him. Depths waiting to swallow her up, to obliterate her questions.

She snapped, "No!" And, willfully, she sailed up and out and away, passing through the thin walls of the tunnel.

At first it was difficult to climb out of this twisted gravity well. But soon she was rising through layers of structure.

Here was the tight electromagnetic cage that had once tapped the spinning black hole like a dynamo. Here was the cloud of compact masses that had been hurled along complex orbits through the hole's ergosphere, extracting gravitational energy. It was antique engineering, long abandoned.

She emerged into a blank sky, a sky stretched thin by the endless expansion of spacetime.

Geador was here. "What do you see?"

"Nothing."

"Look harder." He showed her how.

There was a scattering of dull red pinpoints all around the sky.

"They are the remnants of stars," he said.

He told her about the Afterglow: that brief, brilliant period after the Big Bang, when matter gathered briefly in clumps and burned by fusion light. "It was a bonfire, over almost as soon as it began. The universe was very young. It has swollen some ten thousand trillion times in size since then. . . . Nevertheless, it was in that gaudy era that humans arose. *Us,* Anlic."

She looked into her soul, seeking warm memories of the Afterglow. She found nothing.

She looked back at the gravity mine.

At its center was a point of yellow-white light. Spears of light arced out from its poles, knife-thin. The spark was surrounded by a flattened cloud, dull red, inhomogeneous, clumpy. The big central light cast shadows through the crowded space around it.

It was beautiful, a sculpture of light and crimson smoke.

"This is Mine One," Geador said gently. "The first mine of all. And it is built on the ruins of the primeval galaxy—the galaxy from which humans first emerged."

"The first galaxy?"

"But it was all long ago." He moved closer to her. "So long ago that this mine became exhausted. Soon it will evaporate away completely. We have long since had to move on . . ."

But that had happened before. After all humans had started from a sin-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

gle star, and spilled over half the universe, even before the stars ceased to shine.

Now humans wielded energy, drawn from the great gravity mines, on a scale unimagined by their ancestors. Of course mines would be exhausted—like this one—but there would be other mines. Even when the last mine began to fail, they would think of *something*.

The future stretched ahead, long, glorious. Minds flowed together in great rivers of consciousness. There was immortality to be had, of a sort, a continuity of identity through replication and confluence across trillions upon trillions of years.

It was the Conflux.

Its source was far upstream.

The crudities of birth and death had been abandoned even before the Afterglow was over, when man's biological origins were decisively shed. So every mind, every tributary that made up the Conflux today had its source in that bright, remote upstream time.

Nobody had been born since the Afterglow.

Nobody but Anlic.

". . . Come back," Geador said.

Her defiance was dissipating.

She understood nothing about herself. But she didn't want to be different. She didn't want to be unhappy.

There wasn't anybody who was less than maximally happy, the whole of the time. Wasn't that the purpose of existence?

So, troubled, she gave herself up to Geador, to the Conflux. And, along with her identity, her doubts and questions dissolved.

The universe would grow far older before she woke again.

". . . Flee! Faster! As fast as you can. . . !"

There was turbulence in the great rushing river of mind.

And in that turbulence, here and there, souls emerged from the background wash. Each brief fleck suffered a moment of terror before falling back into the greater dreaming whole.

One of those flecks was Anlic.

In the sudden dark she clung to herself. She slithered to a stop.

Transient identities clustered around her. "What are you doing? Why are you staying here? You will be harmed." They sought to absorb her, but fell back, baffled by her resistance.

The Community was fleeing, in panic. Why?

She looked back.

There was something there, in the greater darkness. She made out the faintest of patterns: charcoal grey on black, almost beyond her ability to resolve it, a mesh of neat regular triangles covering the sky. Visible through the interstices was a complex, textured curtain of grey-pink light.

It was a structure that spanned the universe.

She felt stunned, disoriented. It was so different from Mine One, her last clear memory. She must have crossed a great desert of time.

But—she found, when she looked into her soul—her questions remained unanswered.

She called out: "Geador?"

A ripple of shock and doubt spread through the Community.

". . . You are Anlic."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Geador?"

"I have Geador's memories."

That would have to do, she thought, irritated; in the Conflux, memory and identity were fluid, distributed, ambiguous.

"We are in danger, Anlic. You must come."

She refused to comply, stubborn. She indicated the great netting. "Is that Mine One?"

"No," he said sadly. "Mine One was long ago, child."

"*How* long ago?"

"Time is nested . . ."

From this vantage, the era of man's first black hole empire had been the spring time, impossibly remote. And the Afterglow itself—the star-burning dawn—was lost, a mere detail of the Big Bang.

"What is happening here, Geador?"

"There is no time—"

"Tell me."

The universe had ballooned, fueled by time, and its physical processes had proceeded relentlessly.

Just as each galaxy's stars had dissipated, leaving a rump that had collapsed into a central black hole, so clusters of galaxies had broken up, and the remnants fell inward to cluster-scale holes. And the clusters in turn collapsed into supercluster-scale holes—the largest black holes to have formed naturally, with masses of a hundred trillion stars.

These were the cold hearths around which mankind now huddled.

"But," said Geador, "the supercluster holes are evaporating away—dissipating in a quantum whisper, like all black holes. The smallest holes, of stellar mass, vanished when the universe was a fraction of its present age. Now the largest natural holes, of supercluster mass, are close to exhaustion as well. And so we must farm them.

"Look at the City." He meant the universe-spanning net, the rippling surfaces within.

The City was a netted sphere. It contained giant black holes, galactic supercluster mass and above. They had been deliberately assembled. And they were merging, in a hierarchy of more and more massive holes. Life could subsist on the struts of the City, feeding off the last trickle of free energy.

Mankind was *moving* supercluster black holes, coalescing them in hierarchies all over the reachable universe, seeking to extend their lifetimes. It was a great challenge.

Too great.

Sombrely, Geador showed her more.

The network was disrupted. It looked as if some immense object had punched out from the inside, ripping and twisting the struts. The tips of the broken struts were glowing a little brighter than the rest of the network, as if burning. Beyond the damaged network she could see the giant coalescing holes, their horizons distorted, great frozen waves of infalling matter visible in their cold surfaces.

This was an age of war: an obliteration of trillion-year memories, a bonfire of identity. Great rivers of mind were guttering, drying.

"This is the Conflux. How can there be war?"

Geador said, "We are managing the last energy sources of all. We have responsibility for the whole of the future. With such responsibility comes tension, disagreement. Conflict." She sensed his gentle, bitter humor. "We

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

have come far since the Afterglow, Anlic. But in some ways we have much in common with the brawling argumentative apes of that brief time."

"Apes. . . ? Why am I here, Geador?"

"You're an eddy in the Conflux. We all wake up from time to time. It's just an accident. Don't trouble, Anlic. You are not alone. You have us."

Deliberately she moved away from him. "But I am not like you," she said bleakly. "*I* do not recall the Afterglow. I don't know where I came from."

"What does it matter?" he said harshly. "You have existed for all but the briefest moments of the universe's long history—"

"Has there been another like me?"

He hesitated. "No," he said. "No other like you. There hasn't been long enough."

"Then I *am* alone."

"Anlic, all your questions will be over, answered or not, if you let yourself die here. Come now . . ."

She knew he was right.

She fled with him. The great black hole City disappeared behind her, its feeble glow attenuated by her gathering velocity.

She yielded to Geador's will. She had no choice. Her questions were immediately lost in the clamor of community.

She would wake only once more.

Start with a second.

Zoom out. Factor it up to get the life of the Earth, with that second a glowing moment embedded within. Zoom out *again,* to get a new period, so long Earth's lifetime is reduced to the span of that second. Then nest it. Do it again. And again and again and *again* . . .

Anlic, for the last time, came to self-awareness.

It was inevitable that, given enough time, she would be budded by chance occurrence. And so it happened.

She clung to herself and looked around.

It was dark here. Vast, wispy entities cruised across spacetime's swelling breast.

There were no dead stars, no rogue planets. The last solid matter had long evaporated: burned up by proton decay, a thin smoke of neutrinos drifting out at lightspeed.

For ages the black hole engineers had struggled to maintain their Cities, to gather more material to replace what decayed away. It was magnificent, futile.

The last structures failed, the last black holes allowed to evaporate.

The Conflux of minds had dispersed, flowing out over the expanding universe like water running into sand.

Even now, of course, there was *something* rather than nothing. Around her was an unimaginably thin plasma: free electrons and positrons decayed from the last of the Big Bang's hydrogen, orbiting in giant, slow circles. This cold soup was the last refuge of humanity.

The others drifted past her like clouds, immense, slow, coded in wispy light-year-wide atoms. And even now, the others clung to the solace of community.

But that was not for Anlic.

She pondered for a long time, determined not to slide back into the eternal dream.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

At length she understood how she had come to be.

And she knew what she must do.

She sought out Mine One, the wreckage of man's original galaxy. The search took more empty ages.

With caution, she approached what remained.

There was no shape here. No form, no color, no time, no order. And yet there was motion: a slow, insidious, endless writhing, punctuated by bubbles that rose and burst, spitting out fragments of mass-energy.

This was the singularity that had once lurked within the great black hole's event horizon. Now it was naked, a glaring knot of quantum foam, a place where the unification of spacetime had been ripped apart to become a seething probabilistic froth.

Once this object had oscillated violently, and savage tides, chaotic and unpredictable, had torn at any traveler unwary enough to come close. But the singularity's energy had been dissipated by each such encounter.

Even singularities aged.

Still, the frustrated energy contained there seethed, quantum-mechanically, randomly. And sometimes, in those belched fragments, put there purely by chance, there were hints of order.

Structure. Complexity.

She settled herself around the singularity's cold glow.

Free energy was dwindling to zero, time stretching to infinity. It took her longer to complete a single thought than it had once taken species to rise and fall on Earth.

It didn't matter. She had plenty of time.

She remembered her last conversation with Geador. *Has there been another like me? . . . No. No other like you. There hasn't been long enough.*

Now Anlic had all the time there was. The universe was exhausted of everything but time.

The longer she waited, the more complexity emerged from the singularity. Purely by chance. Much of it dissipated, purposeless.

But some of the mass-energy fragments had sufficient complexity to be able to gather and store information about the thinning universe. Enough to grow.

That, of course, was not enough. She continued to wait.

At last—by chance—the quantum tangle emitted a knot of structure sufficiently complex to reflect, not just the universe outside, but its own inner state.

Anlic moved closer, coldly excited.

It was a spark of consciousness: not descended from the grunting, breeding humans of the Afterglow, but born from the random quantum flexing of a singularity.

Just as she had been.

Anlic waited, nurturing, refining the rootless being's order and cohesion. And it gathered more data, developed sophistication.

At last it—*she*—could frame questions.

". . . Who am I? Who are you? Why are there two and not one?"

Anlic said, "I have much to tell you." And she gathered the spark in her attenuated soul.

Together, mother and daughter drifted away, and the river of time ran slowly into an unmarked sea. O

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Eileen Gunn, Andy Duncan,
Pat Murphy, and Michael Swanwick

GREEN FIRE

During WW II, three legendary science fiction authors—Isaac Asimov, Robert A. Heinlein, and L. Sprague de Camp— combined their grand intellects to work on classified military studies at the Naval Air Experimental Station in Philadelphia. During that same period, many people believe that a mysterious event known as the "Philadelphia Experiment" took place aboard the *USS Eldridge*. Now, four of today's sharpest minds unite these writers with the legendary Grace Hopper for a look at what may be the real story behind that enigmatic episode.

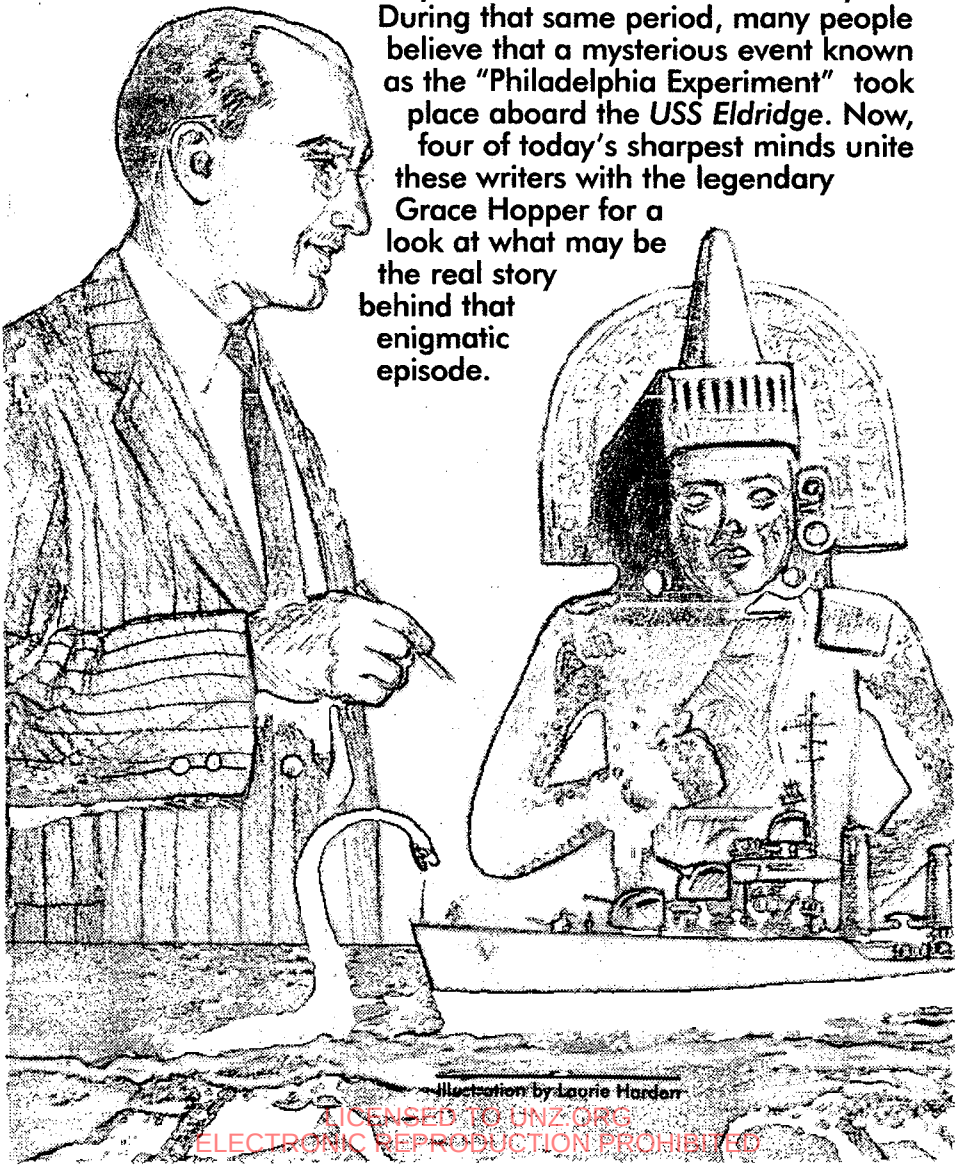
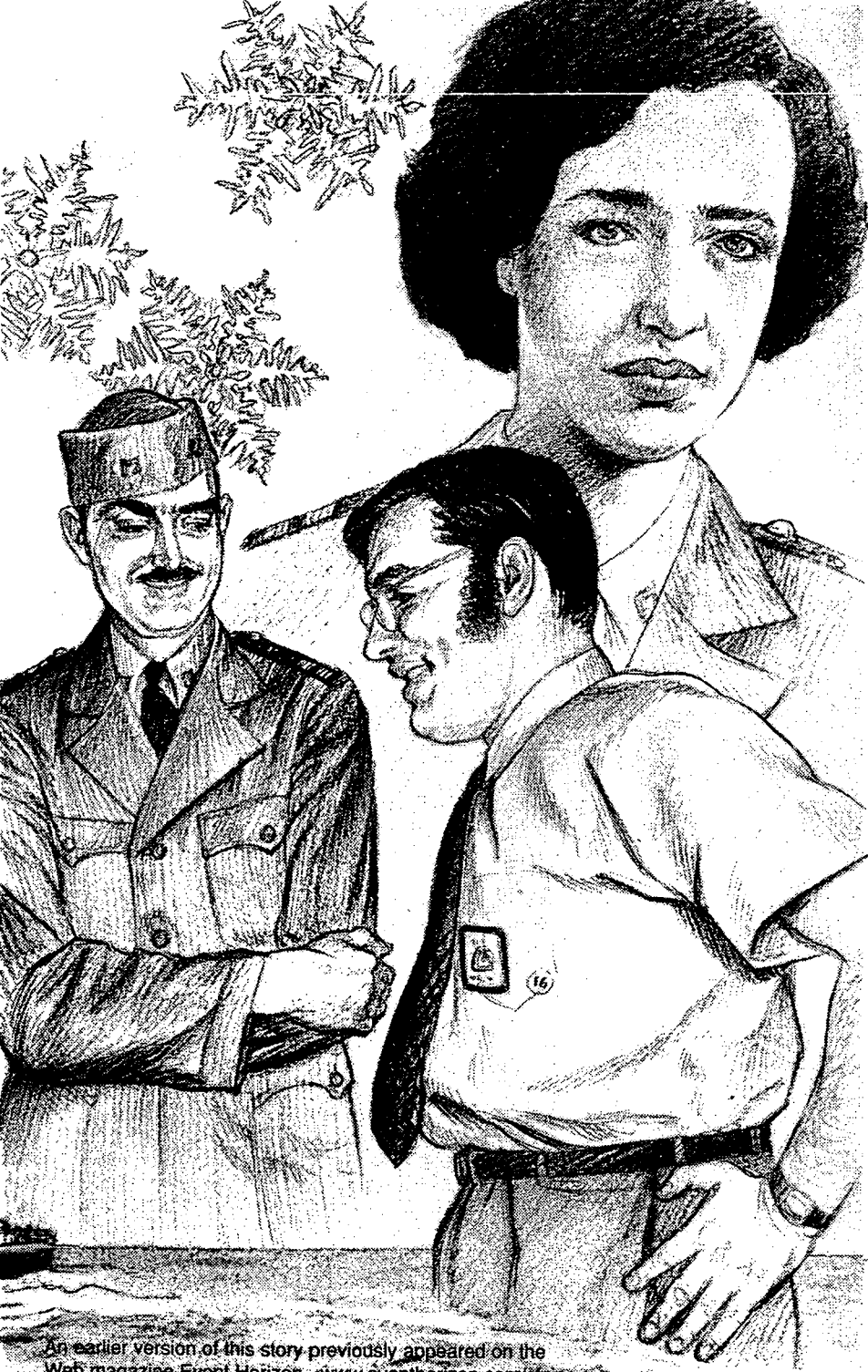


Illustration by Laurie Harden

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED



An earlier version of this story previously appeared on the Web magazine Event Horizon <www.eventhorizon.com/sfzine>.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED.

—Isaac—

September 1943. Nikola Tesla had been dead since January. George Patton had chased the Nazis out of Sicily and was pursuing them up the spine of Italy. Isaac Asimov, age twenty-three, was learning that he was not a particularly good chemist, and probably never would be.

His superiors at the Naval Air Experimental Station hadn't noticed yet, but Isaac knew that when they did, the raises would stop, and his smart mouth would lead him into trouble. Given a choice between saving his career and mouthing off, he'd mouth off every time.

On that day, September 16, Isaac waited almost patiently at the Navy Yard gate, whistling the Major General's Song and counting the rivets on the guard box. Beads of sweat stood on his forehead. His shirt stuck to his back. Philadelphia in the summer was like Brooklyn under water.

I'm very well acquainted, too, with matters mathematical. I understand equations, both the simple and quadratical . . . 377 rivets. Not an uninteresting number. A Fibonacci number, in fact, and the product of two primes: 13 and 29. *With many cheerful facts about the square of the hy-po-te-po-te-nuse . . .*

Heinlein had told him to wait here by the guardhouse, and Isaac was convinced he had something up his sleeve. Bob had a hair up his *ass,* anyway, since Isaac had signed that petition about not working on Yom Kippur.

"You don't believe in that stuff," Heinlein had complained, trying to bully Isaac into taking his name off the petition. "You're not going to temple! If Bernie hadn't come to you with that petition, you wouldn't even have known when Yom Kippur was. Why not take off Christmas with everyone else?"

"So, Bob, you're telling me Christmas is the official holiday for hypocrites like us?"

Heinlein had a hide like an ox. And he was doing everything in his power to get Isaac to work next Monday on Yom Kippur. He'd recruited Isaac for the job at the Navy Yard, and he took a personal interest in turning Isaac into a gung-ho militarist like himself. It was a lost cause.

For my military knowledge, though I'm plucky and adventury, Has only been brought down to the beginning of the century . . . A jeep pulled up and Heinlein waved from the passenger seat. "Climb in! You're wasting gas!"

Isaac got in behind him, and the vehicle pulled away. "What's this all about?"

"Don't ask." Heinlein nodded at the driver. "The sailor here's not cleared for that information." The driver didn't blink.

They sped across the Yard to the destroyer berths at the far end. Isaac smiled as the wind evaporated his sweat. An open jeep was considerably pleasanter than walking, and it wasn't an option usually available to shit-job civilians.

Leave it to Heinlein. He had a pencil-thin black mustache and a beautifully tailored suit. He was as suave as you could be without sliding off the face of the Earth. And he could get jeeps.

The private dropped them off next to the DE 173, the *USS Eldridge,* a steam-electric ship so new it still had a price tag dangling from the bow. Heinlein gestured toward it and said, "They're going to do it, Isaac. This is our ship."

"Did I ask for a ship?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"The Tesla-coil experiment. The Navy agreed to give it a try." Heinlein was pumped plump with excitement.

"You're kidding?! That's a wild goose chase, if ever there was one."

Not three weeks before, sitting around the mess-hall table, he and Heinlein and Sprague de Camp had tossed around a science-fictional scenario for making a ship invisible to detection by radar, which the Germans were rumored to be deploying. Isaac had jokingly suggested creating clutter echoes by running a current through Tesla coils, and got a big laugh from the others. When the hooting died down, though, Sprague looked up from his plate of miserable beef, and said thoughtfully, "You know, that might almost work, except—" Several excepts later, they had a plan, which Heinlein submitted the same day. And now the Navy thought it would work? Isaac mugged astonishment.

Heinlein shrugged. "Well, it's not quite what we submitted, but it's close enough that they want us to go along to observe the experiment." They'd reached the gangplank. He motioned Asimov ahead of him. "Climb aboard, Isaac. We're shipping out."

"Shipping out?" Philadelphia was as far as Isaac ever intended to get from Brooklyn. Heinlein had to be joking. "Fuggeddaboudit, as we say in my country. My wife's expecting me for dinner."

"Not any more, she's not. I sent her a telegram: We're on essential war work, top secret, gone two weeks minimum. Unfortunately, you'll be on board ship for the Jewish holidays, so you might as well work them now and get Christmas off, eh?"

Isaac was no longer mugging—he was astonished, as usual, by Heinlein's total disregard for his feelings. Heinlein hustled him up the gangplank. "Get a move on. Ensign Hopper is waiting to show us around. He'll introduce us to the officers in charge of the experiment."

"Where's Sprague? Can't he go in my place? It was really his idea—he knows a lot more about this kind of stuff than I do. I'm a chemist, for Pete's sake. The only military information I have is about dye markers."

"Sprague's monitoring the experiment from the base. We need you on the ship." They'd reached the top of the gangplank. Heinlein looked around. "Where's that ensign?"

An attractive woman in a WAVE uniform walked up to them. Isaac eyed her appreciatively: trim figure, mass of dark hair, great cheekbones, lovely face. A brunette version, he thought, of Sprague's wife Catherine, who was without a doubt the most beautiful woman Isaac had ever met. Isaac waggled his eyebrows. "Navy life suddenly looks a lot more attractive, Bob." He was joking, of course, but he welcomed any distraction from the panic welling up in his chest.

The WAVE nodded to each of them in an official way. Since they were civilians, she didn't salute. But she conveyed an unmistakable air of Naval authority in the making. "Mr. Heinlein? Mr. Asimov? I'm Ensign Hopper. I'll be in charge of Project Rainbow."

For once in his life, Heinlein's legendary aplomb failed him. "Excuse me, Ensign, but . . . you're going to be on board the *ship?*" It was an unbreakable rule that the Navy did not allow women to serve on ships.

Ensign Hopper's mouth twisted ironically. "They made me an honorary nurse." Nurses were the exception to the unbreakable rule.

She turned away.

Isaac could hardly contain his laughter. "Well, Bob," he said softly, so

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

their new superior couldn't hear. "I guess we know now what the Navy thinks of our idea. They put an ensign in charge."

He started whistling again. *But still, in matters vegetable, animal, and mineral, I am the very model of a modern Major-General.*

—Bob—

After just a few hours at sea, Bob Heinlein had come to realize that Ensign Hopper was, for a military woman, a remarkably unknown quantity.

"Mind your head, sir."

Footsteps echoing, Bob and Asimov clambered down ladders and clattered along passageways and ducked through hatches still gray-gleaming with primer, led by Seaman First Class Kobinski, who looked to Bob all of twelve years old and as fresh as the ship's paint.

"Summoned below decks by an ensign," Asimov said.

"Stow it. The ensign's in charge of this project. If she says jump, we say 'how high?' This is the Navy, Isaac."

"If I've been drafted, it's news to me."

Bob was happy to follow orders, even from a woman. Even if it brought his tendency toward seasickness to the fore, as had their interrupted assignment to check the insulation of the Tesla coils at the front of the ship.

Bob, in fact, was actively seeking to put himself entirely under someone's command, and he wasn't too particular about whose. He had written more than once to Ernest King, his commander aboard the *Lexington,* now chief of U.S. naval operations. Admiral King knew Bob's lungs were scarred from tuberculosis, but King knew grit, too, and intelligence, and leadership potential. It was only a matter of time: Bob would be back in action again.

In the meantime, it was good to be aboard a fast, state-of-the-art ship. The *Eldridge* was a Cannon-class destroyer escort, 1,230 tons, with the new GM twin-shaft diesel-electric drive. Twenty-one knots, easy. Bob had inspected the *Eldridge*'s armament—the big three-inchers jutting proudly upward, the forty-millimeters in their metal pillboxes barnacled to the hull. He wanted to go below, to see the torpedo tubes with the new triple mounting. "Classified," he was told. As if the whole damn cruise weren't classified!

The *Eldridge* would make a fine command. It would carry two hundred men at full complement. One commander, one brain, one will—and two hundred bodies to effect that will.

"Mind your head, sir."

They went down yet another empty corridor.

For this "unofficial" maiden cruise, which would be entered in no logbook, the ship carried far fewer than its normal complement of crew. Below decks felt like a house freshly built and furnished, then deserted. It was a weird atmosphere—spooky, even.

As a boy in Kansas City, Bob had been drawn to the sea and its mysteries. He'd read the tale of the brigantine *Mary Celeste,* discovered east of the Azores in 1872 with its galley fires still burning, its mess table laid for dinner, its crew and passengers nowhere to be seen. As he'd gotten older, he'd figured there was probably more to the story than the mystery, and he'd become more interested in the discipline of the Navy, in the structure of a command, in the intricacies of making hundreds of sailors function as a single effective force against the sea and against a common enemy. A few peo-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ple overboard was a minor mystery, but a single powerful ship, functioning cleanly in peace and efficiently in battle, was a major triumph of human society.

His current surroundings had a certain *Mary Celeste* quality about them. But the ambiance was not that of a vanished crew, but of a crew that had not yet filled its cabins. The wonder was not of what had happened, but of what was yet to come. Courage, cowardice, the essential business of men discovering the mettle of which they were made.

"Mind your head, sir."

"Belay that, son." This was *not* Bob's first experience inside a ship, after all.

"Ensign Hopper? Here they are, ma'am."

Bob and Asimov stepped over the threshold of a tiny room—what was it, a supply closet?—and, by entering, made it even tinier. Kobinski wisely waited outside. Hopper turned, hands on hips—she was one handsome woman, Bob realized anew—and smiled coldly. Lovely teeth, he thought.

"Are you gentlemen responsible for this?"

She gestured toward the wall of instruments behind her, an ungainly, patched-together, floor-to-ceiling mess of vacuum tubes, wires, capacitors, resistors, switches, gauges. Bob could see the blobby joins where components had been hastily soldered together and welded to the bulkhead.

"I've never seen this equipment before," Asimov said. "Is it part of the experiment?"

"It is *not*. I noticed it just now as I was tracking wires around the ship, double-checking connections. It isn't standard issue for a Cannon-class destroyer, I know that."

Bob peered at the jungle of tubes and wires. "Whatever it is, it's up and running. See those needles? They're tracking toward the right, very slowly."

Asimov shouldered alongside. "Hmm, so they are. What are they registering?"

"Dunno. No markings—just calibration lines."

Hopper's eyes were bright and hard as a hawk's. "Two possibilities. One, the higher-ups have added some new wrinkles to your experiment without consulting us. Or two, the Tesla-coil project isn't the only experiment the Navy is conducting aboard this ship."

Asimov was visibly distressed. So much so that he forgot for the moment his overwhelming preoccupation with his own comfort. "But this will interfere with our experiment! How can we tell—"

The lights flickered. There was a distant percussive noise, like a transformer blowing. The vibrations in the deck became jarringly intrusive—no longer the normal low-level trembling of the engines, but a rapid, foot-numbing pulsation. There was an acrid odor, like burning wires.

All the needles on the mysterious gauges twitched to the right.

"Holy cow," Bob said. It wasn't what he had intended to say.

"Someone has switched on the Tesla coils!" Hopper slammed her hand against the bulkhead.

There was a brief, terrible shriek.

Kobinski burst open the door. "What," the sailor asked, his voice breaking, "the fuck was *that?*"

"It sounded like voices," Asimov said.

Bob nodded. "Dozens of voices."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Cut off," Grace Hopper said, "in mid-scream."

They turned as one and ran down the passageway. Bob was just behind Kobinski, the other two lagging after. He plunged through a hatchway, misjudged the height, and banged his head.

"*Damn!*" Bob staggered and clutched his temple.

Asimov and Hopper rounded the corner, almost colliding with him. Bob straightened.

Kobinski was nowhere to be seen.

Nor could he hear the sound of running feet.

Hopper was the first to speak. "Where did he go?"

Bob looked right and left, hoping to see a swinging door, a vibrating ladder, anything that might explain the sailor's disappearance. Nothing. Involuntarily, he thought of the *Mary Celeste,* the ladle in the galley swinging to and fro above the bubbling stew pot. He felt an abrupt nausea, and was suddenly unsure of his footing. He tried to brace himself, failed, and looked down.

Where his feet met the deck, the steel plating was turning misty, uncertain, translucent. Bob's feet were sinking into the deck.

—Grace—

Grace saw Heinlein begin to slip into the mist and shouted "Grab him!" She seized an elbow and Asimov flung his arms around Heinlein's chest and they both pulled. With a hissing sound, Heinlein came free of the grey ooze. All three staggered backward.

Grace stooped to probe with a pencil the gray-green indeterminacy where Heinlein had begun to sink into the floor. She was careful to keep her fingers out of it.

"Bob, are you all right? Are you all right?" Asimov shouted. He was a milksop, Grace thought. A city boy. A civilian.

Heinlein shouted something back. Grace wasn't listening. All her attention was on the gray-green mist. At first, it had the viscosity of molasses, but in just seconds, it solidified. When she tried to draw back the pencil, it wouldn't budge. She twisted it, trying to leverage it out, and it snapped off level with the deck. She stood up thoughtfully.

Asimov was practically in hysterics, and Heinlein was little better. She had to wonder why the Navy had saddled her with these two clowns.

When she had volunteered for this assignment, Grace had known that the proposal submitted by Heinlein and the others was a load of codswallop, gussied up with wishful thinking. But she'd wanted some experience at sea, and it was her only chance. These civilians had been described as "creative thinkers." What that meant, she'd eventually discovered, was that they wrote for the pulp science fiction magazines.

In a bookstore not far from Philadelphia's Reading Terminal Station, she'd spotted Robert Heinlein's name on a paperback. On the book's cover was a futuristic city bisected by a broad trafficway with a rocket ship swooping above. Grace bought the book, and discovered it was a collection of stories.

She read Heinlein's story with interest, pleasantly surprised to discover that it contained neither mad scientists nor tentacled monsters. It was a mathematically intriguing tale about a fellow in California who built a

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

house in the shape of a tesseract. When a quake shook the house, it folded into itself, providing pathways into other dimensions. Far-fetched, but entertaining, she had thought at the time. Impossible, of course. As, of course, it was impossible for a solid steel deck to suddenly evaporate into mist.

She turned to face the two men who specialized in writing about such impossible things. They were still shouting, though the buzzing of the deck had ceased and there was no real need to yell. Asimov was lamenting having ever listened to Heinlein, and Heinlein was ranting about military discipline. She'd teach them a thing or two about military discipline.

"Gentlemen," she said sharply. They looked up, startled. "No need to bellow. Mr. Heinlein, could you describe what you felt when you stepped into that . . . stuff?"

"A tingling sensation. Like a low level electric shock. Something pushing against me, as if the deck had become elastic. I could feel it pulsing beneath my foot."

"Maybe a high intensity magnetic field," Asimov said. "A force field generated by a sudden discharge of the Tesla coils, in combination with . . ."

"With whatever the hell that stuff is," Heinlein continued. "It's possible that . . ."

She cut them short. "Any number of things are possible at this point. We'll report to the bridge first and speculate later."

Easier said than done. The squawk box was dead; the ship's power was screwed up and the internal phone system wasn't working. She tried the nearby sound-powered phone, the communication system used in combat situations or anytime the ship's power was down. The sailor who picked it up was gasping for breath.

"You gotta help them," he whispered hoarsely. "They're in the walls. I can't get them out. You gotta help."

"Who is this?" she asked sharply. "Pull yourself together. This is Ensign Hopper."

"They're in the walls, Ensign Hopper. You gotta help. Everything's all fucked up."

"Who else is there? Is the captain there?"

"They're all here, but they're in the walls."

"Stay where you are, sailor. I'll come up and help." She cut the connection. "We're needed on the bridge."

They hurried through the empty passageways, keeping a suspicious eye on the steel ahead, looking for signs of impermanence.

Just below the main deck they found a sailor who hadn't been as fortunate as Heinlein. His body had sunk into the steel. He looked like a man standing in waist-deep water. He was thoroughly dead.

"The deck solidified after the pulse passed," Asimov said weakly.

Heinlein stared down at the body. His voice was flat. "I'm lucky you pulled me out in time."

"That's what the sailor on the bridge meant," Grace said with a vertiginous touch of unreality. "They're in the walls. The captain. The others. They're in the walls and he can't get them out."

She shifted her attention from the corpse to the two writers. Both were pale. "We're wasting time." She stepped around the body and climbed out onto the main deck.

There she paused, momentarily disoriented. Where on earth were they?

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

A hazy September sunset was smeared over the land when she had gone down below decks to check the equipment, just four hours after the *Eldridge* had left the port of Philadelphia, heading south along the coast. By now, it ought to be night.

It was bright daylight. To the west lay, not land, but thunderous storm clouds. There was a smell of ozone in the air. When she reached up to brush back a lock of unruly hair, static electricity crackled against her hand. The air was warm, thick with tropical humidity.

She saw an island just off the port bow, an island with a white sand beach rimmed with palm trees. Heading directly toward them from the island was a sailing ship, a two-masted schooner straight out of an Errol Flynn movie.

"Pirates," Asimov said softly, and she didn't disagree.

Thunder rumbled overhead.

—Mandakusala—

When she saw the green fire dancing over the ocean, Mandakusala turned the *Bloody Victory* directly toward it. As a warrior and an officer, directly interfaced with the Navy's navigation banks, she knew that this exact spot off Bermuda was a phase-point nexus. If a ship equipped to travel between worlds were to appear anywhere, it would be here.

The Southern Matriarch had been waiting for this day a long, long time.

Her mother, standing beside her, whistled as the ship materialized. "Look at all that iron!"

"Obviously a pre-Scarcity culture," Mandakusala said. "Late industrial capitalism, right on the cusp of an information economy."

"They're primitives, then," Ayapasara said slyly. Her mother was too old to hold a command, but she still made a cunning strategist. "And primitives are easily convinced of their own superiority."

Mandakusala caught her thought. Without putting down the glasses, she began issuing orders: "Go aloft and take down the satellite dish. Tell Cook we need a fat roast as soon as she can heat one up. There are two crates of wine down there somewhere—find them! But first, break open that shipment of hibiscus for the Queen Governor's coronation and distribute them among the crew. I want them to have flowers in their hair and garlands around their necks by the time we close with our target."

Puzzled, her mother said, "Flowers in their hair? Why?"

At last she lowered her glasses. "They're all men."

It didn't take long for the crew to catch on to this fact. They were young women all—rough-and-tumble adventurers, hoping for enough prize money to buy their first husbands. And they'd been at sea for weeks.

They crowded the prow, staring at the men, and calling out to them lewdly.

"That one—I want the slutty-looking boy with the long legs."

"Sweet Goddess, I want them all!"

"Stick your tongue out, little redhead, so I can see how long it is."

"Cease that talk!" Mandakusala snapped. "The next woman who speaks out of turn will be flayed alive!"

The crew fell silent. They knew she meant it.

"As you may be aware, the war with the North has been stalemated for the last forty years. No resources, that's the nub of it. The iron, the coal, the oil—all used up centuries ago! Yet here before us is exactly such a ship as

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

our scientists have told us must someday inevitably come. One with an engine capable of carrying us to other worlds. Rich worlds. Fat and peaceful worlds. You are all warriors. You have all been blooded in the service of the Matriarch. You know how to kill—now I'm counting on you to do something a little more difficult." They hung on her words.

"Smile and wave to the nice boys. Don't frighten the dears. Make them think you're proper gentlewomen, so they'll let us on board."

They were coming in hailing distance now. Mandakusala counted. Thirty men along the rail. Not many for such a large vessel. One of them called out something unintelligible.

"What language is that?" Mandakusala demanded. "Can anyone speak it?"

"It's Aenglish," someone replied. "They speak it in the Cold Isles. I helped burn a village there once."

"Translate."

"They ask where they are, and what we want."

"Tell them welcome to Bermuda. Say I'd like to speak to their commander."

The message was relayed and a figure stepped forward. A woman.

"Why is she all covered up like a man?" her mother asked.

"Perhaps her breasts are deformed. What does it matter?" Mandakusala said peevishly. This woman looked like nobody's fool. "Tell her we request permission to come on board."

Most of the men were leaning over the rail, their eyes bulging out as if they'd never seen women before. They hooted and waved and blew kisses with shocking immodesty. The captain stood apart with two men who must be her advisors. One was short and plump. The other had a thin black mustache. Their eyes bulged too, but there seemed a glimmer of intelligence in them as well.

A crate of wine was set before her and Mandakusala tore open the lid. She tossed a bottle upward to waiting hands. To the translator she said, "Say we wish to entertain them. We have wine for them. And food as well."

The metal ship's men were almost rioting. Their captain was swearing angrily at this lapse of discipline, but they paid her no mind. Her advisors looked uncertain and confused.

She had them. She could feel it.

"Throw down your ladder!" Mandakusala called. She smelled the roast coming up behind her. "Look—we bring you a feast!"

But then, inexplicably, the small round one's eyes widened with horror. He pointed. Others turned to look. Mandakusala turned as well, but there was nothing to see. Only the roast.

But there was nothing strange about the roast. Nothing! It was a plump Northern infant boy, roasted with an apple in its mouth, one of several that had been taken in a raid on a Gulf Coast fortress.

The men were backing away from the rail.

"Grappling hooks! I want grappling hooks and line! Close with that ship!" Mandakusala cried.

But the hooks and lines had been hidden below, and by the time they were out, the metal ship was coruscating with green fire. One of her crew threw a line anyway, and screamed as the power flowed down the rope to burn her black from the inside out.

Two great bolts of lightning slammed into the sky, and the ship was gone.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Mandakusala stared at the roast, lying forgotten on the deck. A flesh taboo. Could it be as simple as that? Had she lost everything—power and wealth and eternal glory—simply because these strangers were vegetarians?

Old Ayapasara hobbled up behind her, and coldly said, "Your own command. Forty warriors. And you couldn't take a ship away from a crew of *men!*"

Mandakusala closed her eyes.

Her mother was never going to let her hear the end of this.

—Isaac—

"What did you do?" Isaac asked. "How did you know to do that? Where are we?"

"I don't know where we are. I ordered the engine room mate to apply power to the Tesla coils, removing us from immediate danger. And I knew to do that because I could read their captain very clearly. I watched how she held herself and when she gave commands. She wasn't a savage, but the commander of a disciplined crew." There was a note of respect in her voice. "Did you notice how swiftly they obeyed her?"

"Well, I—"

But Hopper was speaking to a petty officer: "The captain and the other officers are missing and must be presumed dead. That makes me the ranking officer. I want all hands on deck immediately. The mission is over. We need to take our bearings, find out how many of us are left, and get this extremely valuable top-secret bucket back to Philadelphia."

"Ensign, do you have any idea where we are and what's happening to us?" Isaac liked to remind people in positions of power of their own ignorance.

"At this point, Mr. Asimov, I'm considering this theory: that an interaction between the current in the coils and some unknown factor or factors is affecting the physical state of the ship, causing a change like a phase transition."

Isaac saw that she was observing him shrewdly; evidently her ability to read minds was not limited to half-naked Amazons. To his excruciating embarrassment, he found himself blushing.

"Do you have any thoughts on that, Mr. Asimov? Ideas are your province, I've been told."

"Well, Grace, I'm afraid that the physics is pretty damn difficult, if you'll pardon my French, so—"

"That's *Ensign Hopper* to you, Mr. Asimov!"

Asimov wilted in the heat of that basilisk glare, and hastily said, "Yes, Ensign Hopper."

He didn't apologize, though. He might stand corrected, but he would not apologize. "I agree that what happens to the ship is like a phase transition, when matter changes from being a solid to being a liquid or a gas. Except instead of a transition between different states of matter, this is a transition between matter and time. There's some unknown physical property involved in the way the ship interacts with space and time. It retains its solidity when the current isn't running through it, and sublimates into gray-green gas when it is. We could be in the future or the past or even in some other universe."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"So why do some people get stuck in the walls, when others don't?"

"Um . . . could be anything. Body chemistry? Rubber shoes? Blood type?"

"Figure it out, Mr. Asimov. It's time you and Mr. Heinlein earned your keep. Because I don't think we're going to just sail back to Philly without some serious brain-cell work."

Isaac asked again, "Where do you think we are?" And where, for that matter, was Heinlein? He had disappeared.

"In one sense, we're pretty much where we've been headed all along. See those clumps of seaweed?" The ocean was festooned with tangles of weed. "Sargassum. We've overshot Bermuda and we're now in the Sargasso Sea. The question is *when* is now?"

Peering over the rail, Isaac saw something moving at the bow. It was Bob Heinlein, the crazy son of a bitch, crawling the huge degaussing cables.

The still, seaweed-filled water ahead of the ship's bow stirred, then churned. Heinlein didn't notice. A huge tentacle lifted from the water and reached for him.

—Bob—

He was right! He thought he had glimpsed an extraneous cable from the deck, when everyone else (including, Bob noted with satisfaction, Grace) had eyes only for the Jane Russells on those cannibal women. But he couldn't be sure without going over the rail for a closer look. And here it was, most definitely an extra, smaller cable, no thicker than Bob's arm, twined amid the larger cables, which were plenty large enough for a surefooted and experienced seaman to stand on.

Whoops!

Bob clamped both arms around a cable, as his traitorous right foot dangled in midair. Steady. The footing's slick, but that's no reason to fall. Keep your wits about you. He set his foot back on the cable, tested his weight, took a deep breath of salt spray—and suffered another childish coughing spasm. Damnit! It was like breathing underwater down here, only feet above the waves. But at least the seasickness was kept at bay by the constant wind—the same wind that threatened to sweep Bob off the cables, and into the sea. . . .

Bob pondered his next move. He had to find out where this cable led, and where it came from. Initially he had planned to Jim Hawkins his way completely around the ship, if necessary, but now . . . what was that splash? Nothing important, probably. Best to keep his mind on the task at hand.

He heard Asimov calling his name.

Bob froze. He didn't want Asimov or Grace Hopper (especially Grace Hopper) to see him clutching the side of the ship like an overboard cabin boy. Wait a sec! He spied exactly what he was looking for. Now to . . .

"Look out!"

"Climb, Bob! Climb!"

Something smacked against the hull beside Bob. Foul-smelling ichor spattered his face. He recoiled, nearly falling, and, twisting, saw a tentacle as thick as his torso slithering back into the sea. As he gaped, another tentacle rose dripping from the waves. In the water, something large and gray moved just under the surface.

Falling had been a poor enough option before. Now it was out of the ques-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tion. So was staying put. Yet Bob couldn't make his limbs move. He watched in horror as the leathery, tulip-like pod at the end of the tentacle waved back and forth at eye level, like the swaying head of a cobra, drooling water, an eyeless predator looking for prey.

"For God's sake, Bob!"

That awful pod lunged for him! Without thinking, Bob turned and ran up the cable. Behind him, the pod splatted against the hull. Grabbing an outstretched hand, Bob pulled himself over the rail and onto the deck, where a small crowd had gathered.

Absently, he wiped his cheek. His palm came away covered with black muck. He cursed and slung the muck away, over the rails.

Asimov started to laugh, a little nervously. "Bob, I didn't know an old geezer like you could move that fast."

"Stow it, Isaac," Bob said, automatically, but then he began to laugh too. Hopper and the sailors laughed as well, and briefly they all shared the comradeship of danger evaded.

Then the tentacle slapped into the hull again, and Asimov, sobered, said, "I don't suppose that thing can climb?"

"If it could, it would be here by now," Hopper said. "It can't reach as high as the rail."

Bob thought of the smaller ships of an earlier day, those that rode lower in the water, and shuddered. Could the *Mary Celeste*'s crew have been plucked from their ship by just such a kraken? Never mind that: He'd made a discovery that the others should know about. "There's an extra cable. Running amid the degaussing cables." He pointed. "Do you see it?"

They did. "It's like a creeper among larger vines," Asimov said. "Not always visible. How far does it go?"

"It pierces the hull over here," Bob said, grateful he'd spotted the source-location before scrambling for safety.

"Gr—I mean, Ensign Hopper?" Asimov was trying to sound like a sailor. "This cable could be our 'unknown factor' interacting with the Tesla current."

Ensign Hopper looked over the rail. "Right below us is our 'bonus' control room, too. I'm afraid, gentlemen, we've simply come around full circle. We know there's something going on, but we don't know what or who is making it happen."

"We know where the people responsible are operating from, at any rate," Bob offered.

"But they're not here. Maybe they disappeared into a bulkhead during the phase change," Asimov said. "I'd bet my wallet that none of the swabbies left on board know anything. These guy aren't physicists."

The water had grown strangely quiet. Bob pointed it out to the others. "Look at this. The kraken's left, without even a farewell."

They all looked. Where the kraken had been, there was only a kraken-shaped blob of black ink. As they watched, it broke up, dissolved, and disappeared. The brute was definitely gone.

"What do you suppose. . . ?" Bob felt a shadow fall over him. He looked up to see what had blocked the sun—and saw a glistening gray trunk arching snakelike over the bridge of the *Eldridge*.

Tapering, the trunk rose more than a hundred feet to an impossibly tiny head, flat and flared like the spade of a shovel. It was a plesiosaur, by God! Placidly, like a cow, the critter was chewing something that dangled from

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

its slowly working jaw and, spaghetti-like, inched its way up. There was something familiar about that spaghetti—the tulip-shaped pod at the end. Aha! No wonder the other monster had sped away!

Bob was transfixed again, not by fear this time but awe. Like a rube goggling up at the Empire State Building, Bob looked up, up, up to the apex, the culmination of this strange marine food chain, and thought: What a journey of exploration this could be. The *HMS Beagle*—pah! Think of the wonders, undreamed of by Darwin, that the *USS Eldridge* could bring into port. Think of the knowledge that would flow from it. Think of the stories he'd be able to write.

"My God," Bob murmured to himself. "Sprague de Camp, eat your heart out."

—Grace—

The Sargasso Sea was a convergent zone in the restless Atlantic where warm water and cold came together and changed places, and the action of wind and wave gathered the seaweed and sculpted it into rough circles or long rows. The brownish sargassum, a mass of serrated leaves and little round berries, smelled rank and vegetal, like an exotic soup. Tiny transparent crabs crawled in its tangles.

". . . and may God have mercy on their souls," Grace concluded, and the coffins went crashing down through the crabs and seaweed. She smartly returned her hat to her head and, to the assembled crew, said: "Dismissed to stations." They scattered to their tasks with gratifying alacrity.

There weren't many of them left, but it was a good crew. For that matter, it was a good ship and a good command. Only the deaths—the futile and meaningless deaths—of so many trained men, of poor Kobinski and all the others, could dampen Grace's keen appreciation of how fortunate she was to be here.

She made her rounds of the surviving crew, offering a word of praise here, drawing attention to some small deficiency there. The job was to keep the crew crisp and taut as a drumhead—and not a fractional bit tenser. She made sure everybody had work to do, to keep their minds off their strange predicament.

There had been far too many questions about where the ship was and how it had gotten there. She had indicated that their method of travel was top secret, which was true enough. The main secret was that she hadn't a clue how it worked. That was something she needed to remedy.

Heinlein and Asimov were in the closet-sized "secret" control room, picking through the wiring. She left them for last.

Outside the door, she heard Asimov's voice:

"Plesiosaurs had a wide distribution throughout the world from the Late Triassic, some 190 million years ago, to the end of the Cretaceous, about 65 million years ago. So that narrows it down to a period of around about 125 million years." From Asimov's tone, Grace could tell that he was quite proud of this bit of useless knowledge.

"What's out there is bigger than any plesiosaur in the fossil record," Heinlein said impatiently.

"That's a good point. The largest of the plesiosaurs was *Elasmosaurus*, which measured in at about forty-three feet, about half of which was neck

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

and head. Our friend out there has that beat by around seventy-five feet."

"So I think we should consider the possibility that we're on an alternate time line," Heinlein said. "It's not just that we're unstuck in time. We are traveling between—"

Grace entered. Asimov was sitting in a corner, back against the wall. Heinlein was smoking his pipe. Neither was looking at the circuits. "Well, you look busy," she said coldly. "I guess you gentlemen must already be done with your analysis of the circuitry."

Heinlein, at least, had the good grace to look embarrassed at being caught gold-bricking. Asimov did not. "We've determined that this stuff is all for monitoring." He tapped the dials that continued their inexorable creep to the right, just slower than human patience could detect. The biggest needle had crept past three notches already—three notches, three jumps? There were a great many more notches on the dial. Hundreds. "The controls are somewhere else."

"And you're sitting here gabbing?"

"Well, I've always been more of a thinker than a man of action," Asimov said.

"Mr. Asimov, how would you like to spend the rest of the war in the brig?"

"I'm a civilian! You have no authority over me."

Grace kept her voice low and even. She had once heard a sailor complain about "getting shrieked at by a squeaky little bitch" after being criticized by a WAVE lieutenant. Since then, she had been careful to avoid sounding shrill, no matter how angry she got. "You're on my ship, Mr. Asimov, a military ship in an emergency situation. There's a war on. I am this ship's only commissioned officer, and I will do what I need to do to make sure my orders are obeyed." She studied him as if he were something particularly unpleasant that she had found on the sole of her shoe. "You are a fool, Mr. Asimov. Don't compound it with insubordination."

Asimov glanced at Heinlein, obviously hoping for support, but Heinlein was standing very straight, his eyes on Grace. He knew how to take a chewing out; she gave him credit for that.

"We were sorting out the possibilities," Asimov said defensively.

"Here are some possibilities," Grace said, her voice icy. "You can obey your orders. You can figure out how to keep us from losing any more men in a phase-shift jump. Or you can spend the rest of the war in the brig. You're far more expendable than a working crew member."

"We're on it now, Ensign Hopper," Heinlein said. "Give us half an hour, and we'll have some answers for you."

"See that you do."

She left.

Back on deck, the Southern boy she had put in charge of the guns said, "We seen half a dozen of those god-damned sea serpents, beg your pardon, ma'am. They was all headed away from us, so we saved us our ammunition."

"Good thinking, sailor."

"Looks like we're in for a storm, ma'am. I smell rain." The sky was dark with storm clouds, and the air was hot and muggy. Grace heard the rumble of distant thunder.

It seemed that everywhere they jumped to, a thunderstorm was brewing. Relevant? She filed it away. "Carry on, sailor," she said, and continued on her rounds.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

* * *

When next she encountered Asimov and Heinlein, they were busily tracing wires on the bridge. They looked up when she entered.

"Making headway?" she asked.

"Yes, we are, Ensign Hopper," Asimov said. "It's our guess that the phase shifts occur when the Tesla coil causes the ship to vibrate at its resonant frequency."

"You're *guessing?*"

"Extrapolation is a very powerful tool," Asimov said. "Have you ever studied physics, Ensign Hopper? Do you know what the implications are of the ship vibrating in this way?"

"I have some idea." Grace reached for a pencil and a scrap of paper. "At the ship's resonant frequency, we'd get a standing wave. The effect would be strongest at the vibrational anti-nodes." She made a quick sketch, talking while she drew. "When we jump, we all have to stay close to the nodes, the points of least vibration. The anti-nodes are the most dangerous places to be. The bridge was an anti-node, and so was the spot where we found the unfortunate sailor in the deck. Here's a start." She had drawn a rough plan of the ship, with X's at the spots where people had sunk into decks and bulkheads. Asimov was staring at the drawing with a surprised look on his face. "But this is just an effect. It doesn't tell us anything about where we are. What else do we have?"

Now it was Heinlein's turn: "All right, ma'am. You remember that the original plan was to use Tesla coils to create clutter echoes, thus making the ship invisible to radar—only someone made changes to the plan. But suppose those changes were only changes in magnitude? The Tesla coils, after all, merely increase the frequency and magnitude of an alternating current. Suppose the current thus generated was then increased further by another Tesla coil—a Tesla coil the size of a destroyer?

"Once the first Tesla coil was switched on—presumably by the captain, now deceased—the already high-voltage, high-frequency current would feed into the giant 'Tesla-plus' coil" (this was Asimov's ridiculous coinage) "and be oomphed even further."

"Which would explain the massive electrical discharges surrounding each 'jump,'" Isaac interjected.

"Are you suggesting," Grace asked, "that if we managed to reverse the Tesla-plus current, the ship might well jump backward—past plesiosaurs and pirates—back to the Philadelphia Navy Yard? How?"

"Well," Asimov said reluctantly, "the Tesla-plus current has to be regulated somehow, but we've checked the bridge, the commander's cabin, the radio room, the engine room, everywhere you'd expect to find such controls. Maybe we could—" The shriek of an alarm drowned out his voice. Without hesitation, Grace raced for the deck.

—Quetzalcóatl—

Quetzalcóatl came walking across the water, with the storm to his back. His temper was as dark as the storm itself. He had sensed the green fire from a thousand miles away, and transported himself here in a rage. This was his world! He had warned the others not to interfere with it. How *dare* they?

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Steam rose up where his feet touched the sea and, because he was drawing power from the sunshine, the air was black around him. Virtual particles scintillated in the blackness like the fractured thoughts of a mad god. So terrifying was his aspect that even his beloved plesiosaurs fled from him.

But contrary to his expectations, the source of the green fire was no sleek silver ship from Hy-Atlantis, but a primitive iron behemoth, and its occupants were not of the Evolved People at all but simple anthropoids—humans.

Humans, moreover, from a world where he had once played at creating societies. He remembered well, though it had been long ago, the stone cities and ball courts, the feathered cloaks and tame ocelots, the stepped pyramids he had found thronged with human sacrifices winding slowly toward a peak where the priests waited with obsidian knives, and which he had left cleansed and wholesome. These people had once belonged to him: They had no business here.

Then—outrageous!—the ship's guns began to fire. The fools. Had they no idea how fragile the local ecosystems were?

He had nursed the organisms here through a hundred extinction events, guiding them through the labyrinthine passages of time into forms more graceful and lovely than nature had ever produced on its own.

The intruders must die.

The trick was to do it with a minimum of fuss. He sank down to the floor of the ocean. That would stop them firing any more chemical-powered shells, at least. Then he would plan.

The warm waters closed about him. Ammonites and belemnites jetted swiftly past. Schools of jewel-like teleost fish grazed among the clam reefs.

There were volcanic vents not five miles down. But if he tapped their energies, it would destroy all this beauty. Unthinkable. Better to set up a time gradient and spur the seaweed to hypertrophic growth. That way the ship would be overgrown, engulfed, and dragged under. Or he could . . .

A distant ammonite caught his eye. Quetzalcóatl swam over to where it rested in the shelter of a rudist clam the size and shape of an oil barrel. When he reached a hand toward it, the timid creature pulled its tentacles into its shell.

"Come on out, little one," he crooned. An apprehensive blue eye stared, blinked, relaxed. "That's right." He extended his hand again.

Slowly, the ammonite unfolded.

It had sixteen tentacles.

Quetzalcóatl held perfectly still, calling to the animal with his mind. By slow degrees it grew used to him. At last it lovingly twined itself around his fingers.

The tentacles were slender beyond belief, a rare genetic doubling, and fully functional. The creature used them with perfect aplomb. Quetzalcóatl peered deep into its genome. Yes! It was stable. The mutation would breed true.

So great was the peace that came over him with this discovery that without even wishing it, he found his thought encompassing the minds of the humans on the ship above. Ordinary enough minds, most of them, both fearful and courageous, and lacking in comprehension, though their commander was extraordinary for her kind. But there were two among them who were peculiar, though no less afraid than the others. Instead of taking battle stations, clutching their weapons and waiting tensely against his re-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

turn, they were crawling across the deck on their hands and knees, measuring out distances with a length of rope.

Quetzalcóatl plucked language from their minds and listened with interest to what they were saying.

"Fourteen . . . fifteen . . . here. This is where your foot started to go through the floor."

"Deck, Isaac. It's called a deck."

"Deck-schmeck, what the heck. What difference does it make? Who's got the chalk? Oh, I guess I do. I'll make a mark."

"Yeah, you'll make a mark all right—as a major fuck-up. . . ."

Quetzalcóatl had heard this sort of banter before, and it did not impress him. Whether they were hunting mastodons or conquering empires, bored and frightened men sounded much alike. He sensed the fear both felt that they'd never reach home. Sensed too the humiliation the younger one felt for being chewed out by his commander, the older one's worry that he was past his physical peak. Both men were coming face to face with their own limitations, and neither much liked it. All this, too, he knew from of old.

What did surprise and intrigue him was that all the while, despite everything else he was saying and feeling, the younger one was thinking about the plesiosaurs. Thinking about their power and beauty, and regretting not having had the nerve to try to touch one. Thinking too of the darkness he had seen coming across the water at them, and feeling outraged that the sailors had fired upon it. Brooding not only on his own fear, but also on the lost opportunities for knowledge.

This was an intellectual honesty out of the ordinary, a restlessness akin to his own. Buried deep as it was under fear and humiliation and anxiety for his future, Quetzalcóatl saw a spark of that same fire of curiosity that burned within his own veins.

"Here's where the cat walked through the wall."

"Bulkhead."

"Whatever. Who's got the chalk?"

Quetzalcóatl released the ammonite. Then he summoned an archelon and rose to the surface, standing on its back.

The ship's crew gathered at the rail at Grace's command. Quetzalcóatl had seized control of her mind, of course. It was easiest to be direct when dealing with primates. Through her eyes he saw himself: tall, auburn-skinned and muscular, with a forbidding expression on his face. It was much the same appearance he had worn when he was worshipped as a god in their own world. Except for the extra arms, the talons, and the jagged horns that swept up from the sides of his head.

In a voice like thunder he said, "Have the young one stand forward."

The young one turned green. He looked helplessly at his friend, his commander, his shipmates, silently pleading for their help. They all stood stone-faced and emotionless. He had no way of knowing that they were not under their own control.

Finally, because he had no choice, the young one climbed down the rope ladder to the ocean's surface. Hesitantly, he stepped onto the back of the giant sea turtle.

The young one flinched when Quetzalcóatl placed a clawed hand on his shoulder. The terror that thrilled through him was a palpable thing. There were tears of fright in his eyes. But, probing, Quetzalcóatl saw that—yes—there was under all that emotion, a glint of wonder.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Quetzalcóatl smiled to himself. He wished he could keep this one here, to nurture and encourage it. But he was a naturalist. He would create a bubble of air about them and command the archelon to carry them below. He would show this one a few of his choicer treasures. And then, gently, regretfully, he would remove his hand, and release the specimen back to its natural habitat.

—Isaac—

Isaac stood on the leathery back of the giant sea turtle. It swam at a majestic pace through the calm water. A mantle of moss billowed out in its wake, attached to the edge of the shell like the train of a great green wedding-dress. Close to the ocean surface, with the air humid and the hot sun on him, Isaac felt that the boundaries between himself and this strange natural world were not clearly enough defined. He preferred pavement, frankly.

All around him sported plesiosaurs, oddly graceful in the water, like huge penguins with giraffe-long necks, moving their stubby flippers like rudimentary wings. He was unafraid of them, despite their sharp teeth. Somehow fear had lost its context in the light of recent events. Fear was the air he breathed now, and no one thing was more fearsome than any other.

Except perhaps the memory of the obsidian claws of Kukulcan gripping his shoulder. Gukumatz, Nine Wind, One Reed. Quetzalcóatl. Interesting to think that he, Isaac, had encountered someone who was worshipped as a god. He could see how such a situation might come about. Quetzalcóatl certainly gave the impression of being an indestructible entity with unlimited power, all-encompassing knowledge, a life span measured in eons—and wasn't that what a god was?

So why did Isaac not worship him? Isn't that all a god asks, and isn't it right that he ask it? But there was something in Isaac that kept him from giving over the portion of himself that religious people offer as a gift to their gods. He just couldn't do it. He could acknowledge the power, but he couldn't offer obeisance. Perhaps if he worshipped properly, Quetzalcóatl would return him home. Perhaps not. It didn't matter—it wasn't in Isaac to do it.

The turtle was approaching the boat. Isaac could hear the excited yells of the crew, pleased and surprised to see him coming back from what they must have thought was certain death. He waved jauntily.

Bob Heinlein's voice cut through the others. "Grab the ladder, Isaac! It's going for you!"

Isaac looked over his shoulder. Sure enough, one of the plesiosaurs was casually swimming his way. This was his chance to touch it. He had to know what it felt like. Armor-plated? Warm-blooded? He had to know.

He seized the ladder, pulling himself off the back of the turtle. Hooking an elbow around a rung, he leaned outward, as the huge reptile approached, and extended his free hand. The ladder jerked spasmodically and he felt himself being pulled out of reach. The plesiosaur stretched its tiny head up toward him, like a cat wanting to be petted. He was still straining to reach it when they hauled him onto the deck.

The sailors seemed to think he had cracked under the stress of whatever had happened to him below the sea. "You'll be all right, buddy!" one of them kept saying in a tight voice. "You're okay now! You're on the ship, it's okay!" Maybe he was talking to himself.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Heinlein clapped a hand on his shoulder. "Good work, Isaac! What did you find out?" That's Bob all over, Isaac thought. "Good work" meant "I thought you were a goner there." The clap on the shoulder meant "I really thought you were a goner." And "What did you find out?" meant "Let's not think about this any more."

"What happened out there, Isaac?" Grace Hopper looked as though she knew more than she was letting on.

"That's 'Mr. Asimov,' isn't it, Ensign Hopper?" Isaac grinned.

"I can see the experience didn't change you much," she said dryly. "Who was your friend, the huge golden hypnotist? I'm not accustomed to being driven like an automobile." It dawned on Isaac that Hopper's experience with Quetzalcóatl might have been even more disturbing than his own.

"He's a retired god," said Isaac, matter-of-factly. "He bred the plesiosaurs—this world is his ranch, I think." He furrowed his brow. "Oh, wait! I know where we are!"

"Just a moment. If the immediate crisis is past, it's time to resume normal operations." She turned to the crewmen, now reduced to about fifty men. "Return to your stations, men." They dispersed, and she turned back to Isaac and Bob.

"I prefer not to have an audience for this conversation, " she said quietly. "Continue, Mr. Asimov. Where are we?"

"We're exactly where we seem to be, in the Sargasso Sea." Isaac paused for effect. He couldn't help himself. "But we're rotated through other dimensions than those we're accustomed to."

Hopper didn't seem surprised by the notion. "That's a bit of a stretch from the data at hand. Why do you think so?" Bob, of course, was already nodding. That was the advantage of being a science fiction writer—nothing was ever too strange.

"Quetzalcóatl told me." The information had been poured into him, really, like water filling a pitcher. The ship, with everyone on board, was rotating out of alignment with their familiar dimensions into synchronization with ones they couldn't ordinarily perceive, and each of the phase-change events that they had gone through had rotated them further from the familiar.

"And you were *told* this?"

Now that Isaac thought about it, he wasn't so sure that words were exchanged. "He made it clear to me, anyway."

Heinlein was looking at him oddly. "What makes you think it's true?"

Isaac shrugged. "Would a god lie?" Then, "Unfortunately, he didn't say how to stop the process—so I guess we're as far from home as ever, unless the skipper here knows something I don't."

Grace Hopper's eyes narrowed. "Let me see if I can steer you in the right direction, Mr. Asimov." Oops, he thought. "We started off in a space-time continuum that may have an infinite number of dimensional vectors, of which we can perceive four—height, depth, width, and time. Somehow, when we discharge the Tesla coils, the ship rotates relative to these infinite dimensions, and we perceive what's going on in dimensions we don't usually have to deal with."

Asimov knew that Hopper knew something about physics, but non-linear abstract geometry? Who was this woman, anyway? "I apologize, ma'am. But how come it doesn't look any different? Except for the plesiosaurs, and so forth."

"Quetzalcóatl is a pretty big so-forth, but that's a good question, Mr. Asi-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

mov. This is just a guess, but it could be that so far, at least, the physics is basically the same, and it's relatively easy to orient ourselves. It might be that if we get knocked out of alignment with all our familiar dimensions, we would find the situation much more disorienting. We've still got one foot on the dock, but we're slipping away."

"I'm not sure I follow you there." Isaac had trouble admitting ignorance, but if anything mattered, getting this right mattered. This dimensional stuff wasn't his strong point.

Bob Heinlein was leagues ahead of him. "That's it, I think, ma'am, the alignment. Isaac, imagine living in only three dimensions—you don't perceive depth, say. Things seem two-dimensional to you, as if you lived on a piece of paper. That doesn't mean the other dimensions aren't there, but so far as you're concerned, they might as well not be. Now suppose you rotate, so you do perceive depth. Because you live in only three dimensions, you'd lose the ability to perceive one of the other ones—height or width or time, see? You'd still be limited to three. But the other one would still be there."

Isaac could see that. He nodded.

"Now suppose there are more dimensions than three or four. Suppose we inherently four-dimensional beings got realigned with another dimension somehow. We'd lose alignment with one of the ones we've got. Maybe what's happening when we go through these phase-transitions is the dimensional axes are rotated, so that we're no longer perfectly aligned with our familiar world. We're still there, but we can't get at it!"

"Therefore, to get home, we have to rotate our ship back into alignment with the dimensions we want to live in," Hopper said.

"And soon," added Isaac.

"But don't you think it would be *interesting* to try a few more realignments first?" There actually was a pleading tone to Heinlein's voice. He honestly wanted to take a few more spins through the circles of Hell.

Asimov shuddered. "I don't think—"

A jarring percussive clatter rattled the deck. The entire ship vibrated at a bone-numbing frequency. The area between the lines that Heinlein and Isaac had marked on the deck sublimated into gray-green fog, and the smell of ozone filled Isaac's nostrils. Green fire played over the deck, over the guns, over the conning tower. The fire moved beyond mere green: it was the color of chartreuse tinted with the music of flutes and the vinegar taste of radio waves. It was a color that smelled like butyl mercaptan.

Someone had switched on the Tesla coils again.

"Your wish has been granted, Bob," said Isaac, through paralyzing fear.

—Bob—

Wherever they were this time, the weather was awful. Lightning crackled about the masts, waves of thunder boomed, wind threatened to blow everyone over the rails, and rain sheeted down, drenching the three of them even as they flailed across the deck, trying to avoid the smoking zones of green fire.

A wave surged over the railing to port, and foam sluiced past their ankles. Isaac yelled over the roar of the storm: "The chalk marks!" The water was washing them away.

It was too late, in any case. Whoever had thrown the switch had caught

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

many of the sailors unawares, out of position. Ahead, three crewmen dropped, screaming, into the mist, as if through a trap door, and disappeared. Two others, pinned to the starboard rail by writhing, advancing ropes of green fire, leapt yelling over the side. Someone else screamed to port—"No! No! No!"—and as Bob turned to look, a running man slammed into him, so hard that Bob could feel the man's hot, panicked breath. Bob fell backward, grabbed the railing of a ladder to right himself, and gaped when he realized there was no running man—just a disembodied series of No's above a line of splashes across the standing water on the deck, like those made by a man running straight for the rail. The last No turned into a shriek, and the last little fountain of spray subsided as the shriek faded into the wind.

He tripped on something that gave slightly, and looked down to see a dead man's yawning head sticking out of the deck, the lower jaw fused with the steel. Bob had kicked the corpse in the teeth.

"Dear God," Bob said, and for the first time in his life, meant it as a form of address.

Then the green fire was subsiding—and so were the winds, waves, and lightning, Bob was glad to see, though the downpour showed no sign of letup.

The rain washed down over the scene of senseless, senseless death. Bob thought of friends of his who had died at Pearl Harbor, perhaps without even knowing what was happening to them. Did this death have less meaning? Was combat against a human foe morally greater than combat against the cold equations, as Campbell termed them, of physics? He'd wanted to do his part in a just war, but justice had no meaning here.

Here there was no justice, no right or wrong. But wait. He'd forgotten the one element that smacked of Axis sabotage: the supposedly classified torpedo tubes, to which he'd been denied access at the beginning of the voyage. Which lay directly below the mysterious monitoring room.

He didn't go looking for the others. He was a Navy man, after all. He would check this out himself.

"Don't touch that dial," said a strangely distorted voice.

Bob spun around from the control panel, in a crouch, ready for anything.

On the other side of the small room was the image of a little old man with a mustache. It flickered like an old movie, not flat against a bulkhead as a projection should, but in the middle of the floor. It was three-dimensional, sepia-toned. It moved jerkily, as if the flickering concealed movement that the eye couldn't quite follow. It spoke again:

"Don't touch it. The experiment has yet to run its course." The voice sounded far away and staticky, like a storm-ravaged radio signal.

"Who authorized you to be here?" Bob demanded. It wasn't much, but it was better than "Who are you?" or "Damn! You scared the juice out of me, Pops."

The old man smiled. Something about him was vaguely familiar. "It's my experiment," he said. "My coils. My generator. My wireless transmission system. My genius."

Bob blinked. He remembered that face.

The old man gave a courtly Old World bow. "Nikola Tesla, at your service."

"But you died," Bob said. "Back in January. I read about it in the

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Philadelphia *Bulletin*. St. John the Divine was packed with Nobel laureates. It was quite a funeral."

"What is death? The Mahat, or Ishvara, continues. Throughout space there is energy, the Akasha, acted upon by the life-giving Prana or creative force." His voice hardened. "Step away from that panel." Tesla gestured, and Bob saw that his right arm was wrapped in wire, as a caduceus is wrapped in snakes. The end of the wire vanished on the floor, at the edge of the sepia light.

Suddenly more angry than bewildered, Bob said, "You can't stop me. You're not really here. You're just a projection."

"More like a broadcast," Tesla said. "I'll happily share the details with you, if you like. But for now, come away from those controls."

Bob did take a couple of steps toward Tesla, unwittingly, in his excitement.

"It was you. You're the one who's been meddling with our experiment."

"I improved the experiment, my military colleagues and I." Tesla sighed raspily. "Ah! How good it was, finally to have friends in high places. You didn't go far enough, you know. Using my coils merely to shield a ship from radar! How could you fail to see that the same technology could be used to teleport a ship and its crew almost infinite distances in an eyeblink?"

Tesla added, not unkindly: "But you see, your project served its purpose. It provided us with a ship and an admirable cover to put my theories into secret operation. So everything is going according to plan."

"Are you mad?" Bob retorted. "Can you actually see what's going on aboard this ship, from—wherever you are? We'll be lucky if any of us get out alive. Listen." He felt he was arguing not with a ghost, but with less than a ghost—a notion, a memory, a dream. "I'm a fiction writer. A couple of years ago, I wrote a story about an architect who designs an inter-dimensional . . ."

"Yes, I read that one."

Bob momentarily forgot his anger. "You *did?*"

"I read all the Gernsback magazines." Tesla lifted his coil-wrapped arm in a gesture that might have been wistful if not for the stroboscopic effect, which reduced it to a visual stutter. "I found it an entertaining conceit. Though it was of course more a lecture than a story. With some trick effects at the end."

Bob flushed, but plowed on. "Then you know what I'm talking about. The effect is uncontrollable. The architect and his friends barely make it out of the house with their lives. That's what's happening here on the *Eldridge*, Dr. Tesla. We're not jumping through three-dimensional space, we're jumping across the dimensions themselves."

"A simple malfunction, easily corrected once you return to port."

"How do we get back? How do we terminate the experiment?"

Tesla winked out of existence, leaving Bob dazed and blinking at a bulkhead, as if he had been staring, eyes burning, into a light bulb at the moment it was switched off. Then Tesla was at his elbow. Bob yelped. Close up, Tesla's face was grainier, like the front-row view of the bottom edge of a movie screen.

"How can you give up now?" Tesla asked. "As the jumps come faster and faster, you won't even register their passage. All possible worlds will cycle past you, faster and faster, until all realities are experienced simultaneously."

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Through Tesla's glowing face, Bob could discern the faint lines of the instrument board. "But how will we get home? How will we stop?"

With a pop of static, Tesla winked. The effect was not comforting, as the eyelid stayed down just a half-second too long. "Who cares? Think of the glory!" The old man was no longer looking at Bob, but lost in his own reverie. "Only by annihilating distance," he murmured, "can humans ever end the scourge of war. Imagine! Instantaneous transport—all men neighbors! No more war!"

Nikola Tesla—whether dead or alive, real or not—was mad as a hatter. Bob realized that the time for talk was over. It was time for action.

Bob leaped for the control panel he had been warned away from. There was a joystick there, mated to a potentiometer. It was calibrated from a central point with positive and negative numbers, and the pointer was set to the extreme left. He slammed it all the way to the right.

Tesla snapped out of existence, leaving only a lingering aftereffect on Bob's strained eyeballs, and a faint acrid odor, like a carbide lamp.

The now-familiar rumbling started again.

—Grace—

From a raging storm, the ship had been transported to a sea that was as still as glass. The sky was dark but it slowly filled with millions of twinkling mothlike creatures the shape and texture of doilies, and the size of delicate clumps of snowflakes. They glowed faintly. But they seemed to be harmless, though their trilling was threatening to get on Grace's nerves.

Grace stood on deck, watching the snowflakes swirl. It was night here, wherever "here" was. By ship's time, it was also night. Grace had set a watch and ordered all sailors not on watch to their bunks. Everyone was tired, and tired men made mistakes. She herself was weary to the bone. How long had it been since she had stopped to rest or had grabbed a bite to eat? She had volunteered for this assignment so eagerly! All she had wanted was a bit of experience at sea, all but impossible for a woman to get. And now she had a command.

The moon was almost full. Overhead, the snowflakes spun in the moonlight. Tiny flying flecks of lace, each about as big across as the tip of her little finger. A few of them landed on the deck, and she examined them. Each had a unique pattern on its lacy wings. Like snowflakes, maybe—no two alike.

Idly, she held out her hand and watched as a snowflake landed on it. Its tiny feet tickled her palm. Its wings, extended, formed a lacy circle around a tiny body no bigger than the head of a pin. As she was watching it, a snowflake landed on her other hand. She was idly studying the newcomer when two snowflakes that were somehow joined together fluttered past, just in front of her eyes. Were they mating?

Now there was a minuscule tickle on her right hand. Another snowflake had landed near the first. Then a chain of three snowflakes fluttered past her eyes. Startled, she stepped back, lifting the hand that held the snowflakes.

Two more snowflakes landed on her left hand, making three on that hand and two on the right. A chain of five circled her. She shook her head, astonished.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"Wherever we are, it's an improvement." It was Asimov, returning to the deck. "What are all these flying whatchamacallums?"

"They're insects of some kind." She laughed. "I think they are trying to teach me arithmetic."

The snowflakes regrouped and tried something different. Two went by, then two more, followed by four. Three and two were followed by six, four and two by eight. "Multiplication," she acknowledged. She flashed five fingers two times.

They regrouped again. Four came by, followed by two groups of two. Nine, followed by two groups of three. Sixteen, followed by two groups of four. "Square roots!" she said. She flashed five fingers five times with her left hand, then flashed five fingers twice with her right.

A third regrouping. Grace was expecting cube roots. Instead, the snowflakes glided by slowly in a long line: a flake, a space, a flake, a space, two flakes, a space, three flakes, a space, five flakes, a space, eight flakes, a space, thirteen flakes, a space. . . .

"The Fibonacci sequence!" Asimov couldn't keep his mouth shut.

"They're talking to *me*," Grace complained jokingly, and flashed twenty-one fingers.

Asimov held out his hands. A snowflake landed on each, starting him out simply with one plus one.

"No short cuts," said Grace.

"Perhaps they form some kind of collective intelligence," Asimov mused. "The whole is more than the sum of the parts. That's the theory behind computers, after all. Each relay is a binary decision point. But put them all together and . . ." He waved his hands. The snowflakes were up to three plus two: three on his left hand; two on his right.

Asimov was being patronizing again. But watching the snowflakes had mellowed Grace's mood. "I know all that already. If we make it home," she said, then corrected herself: "*When* we make it home, I'll be working with the Mark I." The Mark I was the world's first large-scale automatically sequenced digital computer.

"Oh," Asimov said humbly. "I should have figured. I'm always attracted to beautiful older women who are smarter than I am."

"Isaac, if you were a military man, that would be insubordination. But I'll overlook it in a civilian," Grace said absently. She addressed the snowflakes politely. "What I need to know is how to find our way home. Simple arithmetic won't help me there. It's more of a geometry problem."

All the snowflakes formed a whirling ball in the air. Individual flakes flew out, one, one, two, three, five, eight . . . the smaller groups converging loosely in a dome over Grace and Isaac, who for once stood speechless. The dome grew quickly until it contained hundreds of the insects, arranged in helical spirals like the seeds on a sunflower. Responding to invisible cues, they whirled in place, first to emphasize their arrangement in left-twisting spirals, then to emphasize their right-twisting spirals.

"I have no idea how to respond," Grace said to Isaac. "I don't know what answer they want from me on this one."

As they watched, six snowflakes, along a single helix winding down from the top, started whirling madly, then curved in on one another in a small loop back to the top.

There was a message there for her, she was sure, but she couldn't figure it out.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Grace felt something in the air—a crackle of static electricity. "Wait!" she cried, but the ship's vibration drowned out her voice. St. Elmo's fire crackled among the guy cables and railings. They were jumping again.

She closed her eyes, striving to retain the image of the snowflake sphere, with its helices and loop. Suddenly the air on her face was cold. The breeze carried a chemical taint that reminded Grace of drying paint and diesel exhaust. Her breath burned in her throat.

She opened her eyes. The snowflakes were gone. The moon was gone. The sun was low on the western horizon, setting cold and red over dark, still waters.

In her heart, she mourned the loss of all the snowflakes were about to teach her. Now she knew how it must have felt to an Alexandrian scholar to stand watching as the Great Library burned.

The vibrations shuddered to a stop. Duty called. Putting away all thought of the snowflakes, she asked, "Where are we?"

"At the end of the world," Asimov murmured, his face bleak.

They found Heinlein on the main deck pushing through a crowd of sailors roused from sleep by the jump. The sailors clustered at the rail, staring at the dim sun that hung motionless over the black water. There was no life in that water; Grace knew that. And somehow, that absence of life was more threatening than any number of krakens and plesiosaurs.

Heinlein wore an expression that combined mortification and despair. Grace knew in a glance that he had been responsible for their last jump. "You pulled the switch," she said. "Where was it?"

"I didn't have a choi—" He caught himself. "In the torpedo room."

"You acted without consulting your commanding officer? You simply *acted* on whatever thought came into your head?" He had ruined their best chance of getting back now. "No wonder you were refused a commission, Mr. Heinlein. You are not cut out to be part of a military force."

He looked as if she had spit in his face. "It seemed important to act, Ensign Hopper. There are . . . forces conspiring to keep us from getting home. So I set the controls for full reverse."

"It was an honest mistake." He was, she suspected, cracking under the stress—and how long before that happened to all of them? She had to help Heinlein keep his courage up. Blaming him at this juncture would not help. "But you were acting on the misconception that we were operating in a linear system—switch it one way, we go forward; switch it the other, we go back. Clearly, it's not that simple." Asimov stood at the rail, as if mesmerized by the setting sun. She turned away from Heinlein to give him time to collect himself. "Talk to me, Mr. Asimov."

He blinked, as if waking from a dream. "Eh?"

"We need to approach this problem from a new angle. The snowflakes were trying to show me something, but . . . I'm not quite there. Just talk about it. Talk about what we know so far. Explain it to me."

"What we know? We don't really know anything, but we think that resonant frequencies have something to do with it." He started slowly, then gathered speed as he warmed to his topic. "We think that we're rotating through dimensions beyond the four that we normally sense. We're rotating and we need to rotate back into alignment with the dimensions where we live."

"Rotating . . ." Grace muttered. "And we need to rotate back. If we were

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

rotating in three dimensions, I'd approach this with spherical trigonometry. But we're rotating through a multidimensional sphere. Perhaps that's what the snowflakes were driving at. To calculate the length of a jump, we need to consider a projection of that multidimensional sphere into three dimensional space. What are our known variables?"

Heinlein frowned, struggling to answer. "We jumped in space—from four hours south of Philadelphia to Bermuda. Then to the Sargasso Sea. But who knows after that?"

"Distance," she mused. "That's a variable. But how far?"

Isaac, paying attention now, gave her the distances. She pulled a notepad from her skirt pocket and jotted them down. The man really was a fount of trivial information.

"What other variables have we got?"

"Time," Heinlein said. "Time between jumps. If we are looking at the coordinates in multi-dimensional space-time. . . ."

"How long did we have between jumps?"

"We were in Bermuda for about an hour," Asimov said.

"And how long were we with the plesiosaurs?"

"About four hours," Heinlein said.

"We were in the rainstorm for less than an hour, and among the snowflakes for about eight hours," Grace said. "Let me see what I can do with this. Bob, why don't you and Isaac devise a plan for shutting down the generators immediately upon our arrival home. I will assign as many crew members as you need to make it instantaneous." She spoke with more confidence than she felt. "Meet me back here when you're done."

Was it an hour later? Or a day? She didn't know. Someone shook her shoulder and there was Bob Heinlein, looking worried. She had fallen asleep sitting on the deck, doing calculations by the lurid light of the permanently setting sun.

This was a world that had never known life, and never would. She shivered. No matter where they ended up, she wouldn't want to stay here.

By the light of an incandescent bulb, she double-checked her figures. The results of her calculations gave the coordinates from which they had to jump and the time at which they had to discharge the coils. "What time is it?" she said in a panic. "How long have we been here?"

"Four hours," Asimov said.

"Good. Here's what we need to do."

They had four more hours to get to the proper location. Full speed ahead, through the lifeless sea. It was good to rouse the men to power the ship; good to be moving. They reached the jump-off point with twenty minutes to spare.

She was waiting, hand on the switch and eye on the clock, when there was a polite knock on the door. At her command, the last person on earth she expected to see entered, and saluted. "Seaman Kobinski, reporting for duty, ma'am."

"Kobinski?! Where the hell have you been?"

"Invisible, ma'am. I kind of blacked out and when I came to, I couldn't see myself, so I thought, well, maybe I should be in the sick bay." He grinned shyly. "I'm better now."

The second hand swung round to zero-second. "Hang on to your hat," she said, and, praying her calculations were right, threw the switch.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

—Sprague—

Sprague was sitting in a dim corner of Pop-Pop's Tavern waiting for Catherine when the invisible sailors poured in, looking for a fight.

The irony was that Pop-Pop's was a respectable tappie. It wasn't one of Heinlein's dives, with B-girls hustling two-dollar ginger ale cocktails or a "Magic Window" over the bar where naked women enacted supposedly classical tableaux. Pop-Pop's was the kind of place where the old neighborhood women had their own entrance and a back room where they could buy a quart of beer to drink with their girlfriends without suffering the unwanted presence of men.

But it was near the Yard and so there were sailors in the front room. And, being sailors, when challenged they fought back. That their opponents were invisible made surprisingly little difference to the dynamics of the fight. Somebody was jostled when the newcomers rushed to the bar. He threw a punch. It hit the wrong person. The bar erupted.

Sprague saw a sailor lifted struggling into the air by unseen hands. Somebody smashed a chair over his invisible opponent, and the sailor fell to the floor. With a roar of rage, a bottle swooped up from the bar and smashed over the chair-wielder's head.

Sprague was a lieutenant, bucking for lieutenant commander. His first impulse was to break up the fight. He was pretty sure he could do it. Military discipline was all theater, really. A commanding voice and a dramatic presence could quell the rowdiest enlisted man. He had both of those.

But in the time it took to lay down a quarter to pay for his unfinished beer, stand, and tuck his cap under his arm, a better thought came to him.

So, quietly, Sprague slipped into the back room and, with a nod and a wink to its denizens, ducked out the Ladies' Entrance. He didn't want to get involved in an incident that would tie him up for hours with the Shore Patrol. Not now.

He arrived at the sidewalk out front just as one of the invisible seamen pushed through the door, dragging an unconscious sailor by the feet behind him.

This Sprague could not ignore.

In the bright sunlight, the seaman was not entirely invisible—more like a clear glass filled with water, which an observant man could see if he looked closely. Sprague stepped forward and tapped him on the shoulder. He felt solid enough.

The man dropped his burden, spun about, and aimed a haymaker at Sprague's jaw.

Deftly, Sprague stepped aside from the blow. As the fist whistled past, he seized the man's wrist, and twisted—a technique he had learned from a Kuomintang ensign—forcing the fellow to bend over. Then he drove his knee into the man's stomach. Hard.

The transparent ruffian fell to the ground with a concrete thud.

I've seen action at last, Sprague thought. Now, nobody can say I spent *all* the war behind a desk. If only Catherine had been here to see it, though!

"Sprague, what on Earth is going on?" Catherine had come up behind him. "Are you all right?"

Thank you, God.

Catherine stared down at the unconscious sailor. He was slowly fading back into visibility.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

"What's going on here? What on Earth does it mean?" she asked wonderingly.

Sprague grinned. His brain had been operating at top speed since this incident had begun, combining disparate elements, putting together hints and rumors and troubling snatches of radio transmission that had been recorded, shown to him, and then stamped TOP SECRET and filed away forever. Now it processed all the information and spat out an answer: "It means Bob and Isaac are back!"

A couple of days later, Sprague dropped by Asimov's office to find him fiddling with a radio. He had the Bakelite cover off and the innards all over his desk and was inexpertly making connections between vacuum tubes. It looked a terrible mess.

Sprague swept a corner of the desk clear and perched elegantly upon it. "I just ran into Bob in the hall," he said. "I don't believe I've ever seen him so angry."

Without looking up from his work, Asimov said, "It's the report Ensign Hopper submitted to the Navy. You know how when you've got a SNAFU, you put a good face on it by subtitling the report 'Lessons Learned,' but when it's FUBAR, you use 'Early Lessons Learned'?"

"I hadn't, but I'm always glad to learn the local lingo." He picked up the report. " 'Project Rainbow: Some Early Cautionary Lessons Learned.' This seems to go beyond FUBAR."

"It's governmentese for 'Revive this project and watch your career die.' We won't be teleporting battleships again any time soon."

"Well, that explains Bob's mood." Sprague stroked his mustache, ignoring the younger man's puzzled look. "But, Isaac, don't you think that's a terrible shame? Imagine the adventures you're missing out on. I would have loved to have gone with you on your little jaunt."

"No, you wouldn't. Oh, there are worse things to look at than bare-breasted girl pirates, I'll grant you that. But when the god-creature first appeared, shrouded in darkness and rushing down upon us—"

"Made your blood run cold, eh?" Sprague began. But Asimov was shaking his head in an it's-not-that-way manner. "Well, humbling then, meeting a superior intellect like—no? Bob was ranting about how he wanted to go back with an arsenal."

"But that's it exactly! The first thing we did was to *shoot* at him! We didn't know he was hostile. But he was strange and different, and so we met him with violence. Can you imagine how much trouble the Navy could stir up with an entire fleet of teleporting battleships and the key to infinity?"

This was too much. "Isaac, you're a *science fiction writer!* How can you turn your back on all you've seen?"

"I'm afraid that for the good of humanity, our future journeys of exploration must henceforth take place solely in the realm of the imagination." Asimov spoke with the full gravitas of all his twenty-three years. Despite himself, Sprague, more than a decade older, couldn't help but smile. "The human race has to mature a little more before we can be allowed out into the larger universe. We have one World War to play with right now, and I think that's quite enough."

Before Sprague could think of an adequate response, Asimov looked at him with a troubled expression and blurted, "When did you grow a mustache?"

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

Astounded, Sprague said, "I had this mustache when we first met."

"I don't think so, Sprague. I always thought you might benefit from a little fur on the upper lip. Looks good."

"Isaac, you are the quintessence of the absent-minded professor! You get more forgetful by the hour." To change the subject from his friend's shortcomings, Sprague said, "So how did you spend Yom Kippur? Not at synagogue, presumably."

"I spent it at home, puttering around with the radio. Did you ever make a crystal radio set when you were young?"

"What boy didn't? A chunk of quartz, a safety pin, a rubber eraser and an earphone. Simplest thing in the world."

"Yes, and yet to look at the inside of a commercial radio, you'd think it was incredibly complicated. Well, I was thinking about the degaussing equipment, and it occurred to me that . . ." He made a final connection. "There!"

Green fire rippled over the radio, and it began to sink down through the surface of the desk.

Hastily, Asimov snatched it back up. He yanked a wire loose, and the device died.

Sprague's eyes felt like they were bulging out of their sockets. His mouth moved up and down, but no words came out.

Asimov raised a finger to his lips. "The Navy classified this top-secret, remember. We're not going to say another word on this matter."

And they never did. O

Chat online
with your favorite authors!

Stephen Baxter **March 14 @ 9:00 p.m. EST**
On *Time*

The Magic of Collaboration **March 28 @ 9:00 p.m. EST**
Michael Swanwick, Pat Murphy, Eileen Gunn, and Andy Duncan

Go to **www.scifi.com/chat** or link to the chats via our home page (**www.asimovs.com**). Chats are held in conjunction with *Analog* and the Sci-fi Channel and are moderated by *Asimov's* editor, Gardner Dozois.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

PRESERVATION HALL

CRYPTONOMICON
by Neal Stephenson
Avon, $27.50, ISBN 0-380-97346-4

"David Brin's OUT OF TIME"
by diverse hands
Avon, $4.99

DARK CITIES UNDERGROUND
by Lisa Goldstein
Tor, $22.95, ISBN 0-312-86828-6

THE CENTURION'S EMPIRE
by Sean McMullen
Tor, $24.95, ISBN 0-312-85131-6

STARFISH
by Peter Watts
Tor, $23.95, ISBN 0-312-86855-3

DOWN THERE IN DARKNESS
by George Turner
Tor, $23.95, ISBN 0-312-86829-4

KING RAT
by China Miéville
Tor, $23.95, ISBN 0-312-89073-7

THE CASSINI DIVISION
by Ken MacLeod
Tor, $22.95, ISBN 0-312-87044-2

Writers seem to be exiting "science fiction" and/or "SF" in droves these days, or at least desperately searching for career egress from the economic disaster area that being published under these marketing rubrics has become. If you're not in it for love, forget it, because there's no point in being in it for the money.

And I'm not just talking about so-called "midlist" writers either. Take, for instance in extremis, Neal Stephenson.

If there was any writer one might imagine would be one of the last off the sinking ship, it would be Stephenson. After apparently floundering around trying to become a "mainstream" writer at the beginning of his career, Stephenson turned to science fiction with *Snow Crash,* an excellent novel that deservedly made him a comer within the SF genre. He followed with *The Diamond Age,* published by Bantam Spectra, who had also published *Snow Crash,* who did it with a major push.

Lou Aronica, who had created the Spectra SF imprint at Bantam, left for Ace, then Avon. The Spectra program went seriously south and a key portion of Aronica's Spectra crew and writers ended up following him to Avon, where, as head-of-house, he established the Eos line as an attempt to redo Spectra.

Stephenson's next novel, *Cryptonomicon,* was published by Avon, with an even bigger and more expensive launch than *Snow Crash.*

But not in the Eos line.

Not as science fiction.

Nor as "SF."

As a major "mainstream" Avon hardcover.

From a house that had no reputation or track record as a major mainstream hardcover publisher before.

Perhaps simply because *Cryptonomicon* is not "science fiction" or even "SF" by any meaningful literary definition thereof?

Nothing so simple as that.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

You be the judge.

Cryptonomicon is a long (nine hundred plus pages), meandering, complex, and highly discursive novel, whose plot I will not attempt to do more than briefly summarize here, though on the other hand, for a novel this long, the cast of characters cannot really be said to be huge, nor the actual story all that complicated.

Or rather stories, for *Cryptonomicon* follows two casts of characters along two separate intercut time-lines, the stories converging in the immediate future only toward the end.

One time-line takes place during World War II and centers on three main characters: the Marine, Bobby Shaftoe; the Japanese mining-engineer-turned soldier, Goto Dengo; and mathematician Lawrence Pritchard Waterhouse.

Waterhouse is involved not in the real Enigma operation that broke the German wartime codes (though Alan Turing, the real mathematician who is a friend of his as a character in the novel, was), but in a fictional operation to conceal from the Nazis the fact that their codes have been broken. Waterhouse is involved in the theoretical and mathematical end of this, and Shaftoe in the operational end, and they don't meet until well after the midpoint of the book. Dengo is someone Shaftoe met in Shanghai before the war started, but this does not play that important a part in the story.

The World War II plotline involves the war in the Pacific, submarines, Nazi and Japanese gold, a secret repository for same in the Philippines, the creation of the first computers by the real Turing and the fictional Waterhouse, and a great deal about the mathematics of encryption and decryption.

Nevertheless it would not be stretching (or squeezing) genre definitions too far to contend that, no, this isn't "SF," not even a kind of retro "steampunk," if you wanted to make that point, though if you had a reason to argue the converse, it wouldn't be so hard to do either.

The present or arguably near-future storyline, however, is quite another matter. Here the main protagonist is Lawrence Waterhouse's grandson Randy, a Silicon Valley computer whiz cum nerd involved in a complex corporate scheme to establish an even more recondite species of "data haven" in a fictional sultanate close by, yes, the Philippines, where Randy spends much of the story; where Goto Dengo, now a Japanese construction magnate, buried the gold during the war; and where Randy becomes romantically involved with none other than America Shaftoe, a descendant of Bobby.

Okay, maybe, just maybe but I doubt it, all the whiz hacking stuff in Silicon Valley that Randy is involved in may actually be contemporary reality, and the exaggerated picture of the culture there too, but once the action shifts to the Philippines the tech certainly takes off for more than enough of the wild blue yonder to qualify *Cryptonomicon* as SF, as science fiction, by anyone interested in using a remotely literary definition of same.

But literary definitions of "science fiction" or "SF" are not the point here at all. Commercial definitions thereof and escaping from them are.

Consider: Neal Stephenson's two previous novels were literarily science fiction and published as same under the aegis of Aronica, who brought *Cryptonomicon* to Avon, and apparently successfully.

Or not.

I have no access to sales figures, but *Snow Crash* was certainly a successful first science fiction novel by the standards of the time, establishing Stephenson as a major SF

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

writer, and encouraging "Team Spectra" to spend big bucks promoting his second SF novel, *The Diamond Age.*

The Diamond Age appeared on the SF bestseller lists, received good reviews, and established Stephenson as an SF writer with a following. A success by any internal SF genre definition.

But perhaps something of a bomb by Aronica's commercial parsing of the numbers? Or by that of the corporate bean-counters above him?

Seems paradoxical, but it could be. I do know that something similar happened at the same line under the same aegis to me.

My first novel to be published by Bantam was *Child of Fortune.* It was undeniably science fiction and published as same. It sold something like ten thousand hardcovers and forty thousand copies of the book club edition, excellent by the genre numbers of the time.

But Bantam had spent a lot of money on the launch, had done a first printing of over twenty thousand to cover it, and so the novel was accounted a commercial failure by the aforementioned number crunchers.

It could be that something similar happened with *The Diamond Age,* that it was successful in genre terms, but a commercial failure in terms of showing a profit after all the money that was spent on it.

Leading Lou Aronica to the probably correct conclusion not to make the same mistake again at Avon with *Cryptonomicon?* To disabuse himself of the notion that big bucks on promotion could break any science fiction novel, no matter how literarily worthy, no matter how accessible to a general audience, out of genre numbers without hiding the fact that the book was SF?

And *Cryptonomicon* is a literarily worthy novel, full of literary virtues that in the end outweigh its flaws, of which it also has many. Most of which, alas, could have been eliminated by the sort of rigorous and creative editorial work that seems to have all but disappeared from the publishing process, SF genre or otherwise.

Stephenson has been compared to Thomas Pynchon and *Cryptonomicon* to Pynchon's magnum opus *Gravity's Rainbow,* and the comparison is apt. Stephenson, in *Cryptonomicon,* shares several of Pynchon's virtues in *Gravity's Rainbow.*

Both novels display their authors' erudition in certain technical areas—physics for Pynchon, cryptography for Stevenson. Both novels hover somewhere between realism and surrealism, which, I at least would argue, makes them both speculative fiction of a kind. Both are painstakingly detailed when it comes to the rendering of their recreated and somewhat surrealized pasts. Both are highly discursive, following meandering byways away from the storyline that are often self-contained pleasures within themselves.

But the Stephenson of *Cryptonomicon* also shares several of the characteristic flaws of the Pynchon of *Gravity's Rainbow,* some in exaggerated form. Stephenson is better at structure and closure than Pynchon, and somewhat better at giving his extravagant characters enough inner life to make the reader feel for them, though only Bobby Shaftoe really comes emotionally alive.

Both *Cryptonomicon* and *Gravity's Rainbow* are long discursive novels that cover more pages than they should, but the persiflage and blubber is much more evident and annoying in *Cryptonomicon* because while Stephenson and Pynchon both tend to self-indulgence and long-windedness, Stephenson, at least here, is much worse.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

It wasn't so in *Snow Crash*, or even in *The Diamond Age*, which was also a long and often discursive novel, perhaps because writing discursive science fiction that knows it's science fiction imposes a speculative and creative discipline on even the discursive exposition. Whereas the same writer, attempting to recreate a past by piling on detail, can get lost in it, as Stephenson often does in *Cryptonomicon*, taking, for example, pages to describe what it's like riding in the London Tube, having never heard, or perhaps forgotten, the hoary science fictional editorial adage that just because your hero is driving from Los Angeles to San Francisco you don't really have to provide a detailed description of the workings of the internal combustion engine.

I have no knowledge of what the relationship was between Stephenson and his editor or whether the book was subject to a real line-editing process at all. Perhaps Stephenson is the kind of writer unwilling to work with an editor this closely. Certainly it is true that the sort of editor able to gain the creative confidence of writers to the point where they are willing to allow editorial collaboration like this is a vanishing breed.

Whatever. The result is a major novel of serious literary merit with serious flaws, most of which could have been eliminated by the writer working with a good editor he trusted over an unpleasant week or two of blue-pencil work boiling about a hundred pages or so out of the manuscript.

A major work of literary science fiction that the publisher decided could not be successfully published in a major way as long as it or the author was identified in any way with "SF."

And was probably right.

One need only look around at what "SF" publishing has become—indeed, one need look no further for an exemplary ghastly example than an SF publishing venture by the very same house—to see why the powers that be at Avon were not about to torpedo a novel like *Cryptonomicon* by associating it in any way with something like "David Brin's Out of Time" series.

A critic should not review books he hasn't read and I'm not about to plow through the first three volumes of this sort of schlock, but the publishing phenomenon is all too symptomatic and all too sad and all too counterproductive, it does need talking about, and I can hardly avoid it.

The Out of Time books are paperback original juveniles, forthrightly so, the McGuffin being teenage protagonists plucked from the present or past to deal with problems of the future. Whether David Brin really created this format—something that might take a competent writer as much as a full half hour to do—or whether he simply rented out his name to the publisher, I have no way of knowing.

But what I do know is that the covers give Brin a possessive credit above both the series title and the episode titles, in the manner of a marquee Hollywood director, and in type more than twice the size of the names of the writers who actually did the work.

And while one of the first three writers of what seems to be a monthly series is Roger MacBride Allen, who has done quite a bit of media novelization work, the other two are Sheila Finch and Nancy Kress.

How can I put this politely?

I guess I can't. Because this is the kind of thing that has me reaching for my critical revolver.

The most polite epithet I can come up with for "David Brin's Out

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

of Time" is appalling, and believe me, I restrain myself that far only because I believe that beneath the rip-off Brin has an idealistic purpose, however misguided.

Rip-off? He said rip-off?

I don't know how the money is being split, but however it is being split, folks, it's a rip-off of your colleagues to take money for writing work that they have done and you haven't. It's an even worse rip-off to have your name plastered on their novels in type twice the size of theirs and above the title.

It's depressing enough to see a writer like Sheila Finch toiling on Brin's plantation, a writer of serious intent and merit, who has never quite made it to the front ranks.

But Nancy Kress!

If Nancy Kress has to grind out this stuff to stay financially afloat, the SF genre has reached condition terminal. Nancy Kress is a well-established writer with many of her own books to her credit. Nancy Kress has long since arrived. Wherever that may be these days.

Up Shit Creek, by present appearances.

On the other hand, I said that I believe that Brin has an idealistic purpose here, or at least a rationalization for eating this free lunch that he's probably sold to himself. So for all I know, Nancy Kress could be rolling in dough, and bought it, too.

There has been much pissing and moaning about science fiction no longer attracting young readers, and attempts to do something about it. The SFWA is in the process of promulgating "junior memberships" and "reading lists." And Brin himself, along with Gregory Benford and Greg Bear, has been active in trying to promote SF as a teaching aid in the sciences.

That the problem is real is undeniable. That the solutions being proposed are counterproductive it may take an overage unreconstructed adolescent like yours truly to see.

For what attracted young readers to science fiction when they were being attracted to SF was its visionary transcendence of the here-and-now, its shattering of the conventional assumptions being fed to them by the adult world, and its lowly status therein as a disapproved outlaw literature likely to corrupt their vital bodily fluids.

Adolescents want their vital bodily fluids corrupted, want the assumptions of the adult here-and-now shattered, want outlaw music, drugs, literature, want to find transcendence, which by definition is something never to be found by following official channels.

So the last way to attract adolescents to any art and the first way to turn them off is to use that art for earnest didactic purposes, let alone for teachers and other adult authority figures to present young people with an approved canon.

Those wishing to attract young people to the reading of science fiction would be better advised to write some SF novels that get banned and excoriated for outraging conventional public sensibilities and arrange for a few prominent science fiction writers to be arrested before TV cameras for performing sexual acts in public stoned out of their minds with hobnails through their noses.

As for glomming onto the sort of dreamy kids with the passion to become SF writers and the individualistic gumption to actually try to do it, pinning merit badges on them for getting published in the school paper, and co-opting them into a Junior SFWA mentoring program, that would teach the entirely false lesson that one becomes a writer by following the rules, listening to the wisdom of one's elders, and doing one's homework, rather than by

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

heroic lonely effort against what in reality are very long odds.

And even if it works, all it will produce is a generation of hacks capable of grinding out episodes of *Star Wars, Star Trek,* or "David Brin's Out of Time."

Still, perhaps David Brin really is a hero in his own mind with this venture. Perhaps he does genuinely believe he is doing well by doing good and perhaps at least some of the writers laboring in his fields really are doing it for idealistic reasons rather than out of economic desperation.

I can even reconstruct the rationalization myself. After all, in days of yore, was it not the Heinlein juveniles that brought so many young readers to science fiction? And built the audience that reached adulthood in the 1960s, thus producing the boom that started in the 1970s?

Indeed it was. Indeed they did.

There is only one teeny-tiny difference between "David Brin's Out of Time" and the Heinlein juveniles, a difference so picayune, so subtle, that it is easy enough to see how it might have escaped Brin's and Avon's attention:

Each and every one of the latter was a free-standing individual novel written by none other than Robert A. Heinlein.

With the same care and craft and seriousness of intent and respect for his audience that he brought to his "adult novels," to the point that adults then, and even today, could and can read them with interest, without feeling written down to, without feeling patronized.

Just imagine Heinlein cranking out an episode of "David Brin's Out of Time." Unthinkable. Ludicrous. Now imagine Heinlein putting his name in huge letters atop juveniles written by diverse colleagues. But have your barf bag handy.

Curiously enough, or perhaps not so curiously, Avon, which published *Cryptonomicon* outside its Eos SF line, is publishing the Out of Time series outside of Eos too, simply labeling the books "Avon Science Fiction."

What does this mean?

These tea leaves seem a bit too obscure for me to read.

Or not?

Could it be that Lou Aronica, who started Bantam Spectra with high literary ambitions that neither it or any other line of "SF" has quite been able to achieve, and seems to have made an attempt to try again with Eos with the usual mixed results, to the point where he felt he couldn't sacrifice a novel like *Cryptonomicon* for the greater good of the Eos line, still didn't want Eos tainted with something like this?

And so attempted to establish a three-level class system for "speculative fiction" and its writers, with the SF logo wiped off the aristocracy entirely, the middle class being published in Eos, and the sharecropping peasantry a cut below that?

Ironically enough, virtually while I was writing this, Aronica was "downsized" by Harper/Collins, who had bought Avon, along with seventy-three other employees, including Harper/Prism editor John Douglas, and the SF imprints of the two houses were merged.

This is not good news, first because it eliminates another SF line, and second, because whatever one might think of the contorted wrestling between Aronica's obsession with genre marketing ploys and his literary conscience, at least he could be said to have had one. This is more than can be said for the resulting publishing behemoth, owned via the usual corporate layerings by someone never apparently troubled by same—none other than Rupert Murdoch, who turned the London *Times* into a clone of the old New

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

York *Post* and the New York *Post* into a clone of you-better-not-ask.

I delve this far into the writhing dyspeptic intestinal lacunae of genre and sub-genre and sub-sub-genre of "SF" mainly to illustrate what this mode of publishing has become, how far it has drifted from its spiritual roots, how destructive it has become to the economic, spiritual, and creative lives of writers originally drawn to it out of love and passion like moths to the pure white light of a blinding flame.

How far has it really gone? Journalistic ethical strictures against publishing tales told not for attribution and straightforward fear of a libel suit prevent me from naming the names or revealing the details of the worst of it.

Suffice it to say that the powers that be at one of the SF imprints of another corporate giant heavy into novelizations of a certain hot "sci-fi" media property line leaned very heavily indeed on a certain very prominent SF writer to apply his considerable talent to the production of same and lend his prestigious name to the cover thereto.

Or else.

Or else unpleasant career consequences.

It's reaching the point where perhaps it can even be said that "sci-fi" publishing and Murdoch deserve each other.

There hardly exists an SF line these days that even attempts to hew to a set of consistent literary standards, even modest ones, whose editorial credibility has not been compromised by the economic pressure from the bean-counters upstairs to first include media novelizations in the mix—or, if same cannot be secured, to come up with pseudo-media novelizations like Out of Time—and then, inevitably, to allow them to dominate the list.

Aronica's contortions at Avon would seem to illustrate at least a struggle against this tendency—segregating Out of Time from Eos and *Cryptonomicon* from the whole clade of sub-genres—but Lou Aronica has gone to his reward, just or otherwise. And the forcing of one of their major writers to do a novelization by that unnamable and unspeakable other SF publisher illustrates the moral depths of utter surrender thereto.

However . . .

However, there does still exist one SF line, Tor, which has at least thus far succeeded in escaping literary immersion in this corporate marketing piranha-pond.

Nor is it an accident that Tor has by now accumulated the longest and most complete list of SF writers of serious literary intent in the "industry." The house has become a kind of refugee camp for this dwindling breed; not only for writers with literary track records superior to their commercial track records, but for new writers with serious aspirations quixotically seeking to join them as well.

Is this the good news or is this the bad news?

Well, maybe both.

The good news is that Tor has a large staff of editors who do seem to maintain a certain level of literary standards, stays away from media novelizations and other forms of sci-fi schlock, and publishes a lot of SF books annually, almost all of which at minimum merit publication on some sort of literary grounds.

Take a recent more or less random sampling of Tor's production.

American Lisa Goldstein's *Dark Cities Underground* is part urban fantasy, part children's fantasy world viewed from an adult perspective, part literary recursion, part love story of a strange sort between a man who as a child was the protagonist of his mother's child's fan-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

tasy novels based on his real experience in darkly magical lands and the journalist after the story.

As such, it's a bit like Lewis Carroll as rewritten by Harlan Ellison, dreamy and hard-edged at the same time, and written to the usual high literary standards of the writer who won an American Book Award for *The Red Magician.*

Down There in Darkness is the last novel of George Turner, recently deceased, perhaps the most literarily respected science fiction writer Australia has yet produced. This is in some ways a fairly typical post-disaster novel, set in a world the other side of an artificial plague concocted by a scientist with a rather ruthless solution for the over-population problem and a vision for what should come after with himself as the high poohbah thereof.

But untypically, it's told in sequential first-person viewpoint by three different characters, and it's more psychologically oriented than plot-oriented. The moral questions are dealt with less in blacks and whites than more subtle gray scales, and it downplays the science fictional flash in a manner rather characteristic of Turner.

Starfish is an excellent first novel by Canadian Peter Watts, a stylishly well-written and entirely successful melange of hard science and character-centered story taking place mostly in a deep sea habitat that is both credibly detailed in technological terms and well-rendered as a high pressure venue in more than one sense of the term.

It's somewhat reminiscent, in a way, of Frank Herbert's *The Dragon in the Sea* in the depth claustrophobia, but more so of Gordon Dickson's *Home from the Land* with its oceanic mutational transcendence. The sort of novel that in more innocent days people would have said good science fiction is centrally about.

So, too, if not quite as formally successful, is Ken MacLeod's *The Cassini Division,* not this Scot's first novel, but his first to appear in the United States; a well-written, indeed sardonically well-written tale of political and military conflict in space. Although one of MacLeod's previous novels won the Prometheus Award, basically a prize for Libertarian SF, and in his depiction of a planet with a libertarian culture the author at first appears to be wearing the ideology on his sleeve, admirably enough all is not as morally simple or as lacking in irony as it first seems.

Particularly since the story is told in first person by the leader of the elite military force of the title, Ellen May Ngewthu, an admirably unreliable narrator, who turns out in the end to be not so reliable even to herself. Sophisticated post-modern space opera for adults, somewhat in the mode of Iain Banks.

Australian Sean McMullen's *The Centurion's Empire* is something of an exasperating read in the first half that pays off quite unexpectedly in the second. This is the strange time-travel story of the Roman centurion Vitellan, put into a kind of steam-punk style frozen suspended animation in the time of a Roman Empire secretly ruled by an elite of such time-travelers, frozen, thawed, and frozen again, down through the centuries.

It's an interesting concept disappointingly handled in the first half of the book as Vitellan surfs through centuries of history, disappointing because McMullen never really puts us inside the head of this Roman soldier moving through successive cultures, keeps too many major story events off-stage, and keeps the consciousness of his protagonist at a remove.

One ends up convinced that McMullen is doing this because he sim-

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

ply can't handle rendering the disjunctions from inside Vitellan and lacks the literary courage to try. Then Vitellan is awoken in a suddenly much more vividly described and mutated future culture and one is suddenly proven quite wrong, as one is transported deep inside the confused and disjuncted mind of this time-traveler coping with a future society in which psychological identity itself is not quite what it seems. Even to the identity supposedly in question.

King Rat (no relation to the successful World War II novel and film of decades ago) is another first novel, and a powerful one, by Briton China Miéville, a very dark and very modern and strangely inverted retelling of the myth of the Pied Piper of Hamelin as an urban fantasy set in the secret places of modern London.

Here, however, the Piper is the villain, the rats are the putative victims, the Rat King is part monster and part pathetic, and the main protagonist, his unwitting changeling progeny Saul Garamond, plays the role of a sort of savior.

What's more, although there is a kind of time-warped Dickensian atmosphere to Miéville's London somewhat in the manner of some of Michael Moorcock's tales of the city, this is also very much very contemporary London and the story is intimately involved with pop music and its subcultures, also à la Moorcock.

But here the music is post-rock—Jungle Music—and if this isn't the first literary portrait of Jungle Music and its subculture, it's got to be the most complete and sympathetic to date, while giving the phrase "the Battle of the Bands" a whole new meaning.

You will note that I have given the nationalities of the writers of these novels, but not out of atavistic chauvinism. Au contraire, this is relevant because Lisa Goldstein is the only American among two Australians, a Scot, a Canadian, and an Englishman, and while these proportions are admittedly not typical of Tor's annual output, neither is Tor's eager openness to non-American writers (at least Anglophone non-American writers) typical of either American SF lines or American publishing in general.

It is also illustrative of a trend that seems to have sneaked up on the SF genre in the past few years more or less unnoticed, namely that a disproportionate amount of the most interesting SF written in English is coming from non-American writers. English and Canadian writers, to be sure, but also, considering the relative population of their countries, a extremely disproportionate number of Scots and Australians.

This has gone more or less unnoticed because a great deal of this stuff doesn't seem to get US publication, other houses being a good deal less open to non-American writers, at least according to the complaints one hears from writers outside the United States.

You will also note that each of the novels mentioned above is easily worthy of publication on quality grounds, which is typical of Tor. Not that it consistently publishes masterpieces, which it doesn't; nor that it never publishes flawed novels, which it certainly does; nor that it never publishes what some tastes might consider out-and-out failures, which it does too, but that it seldom if ever publishes cynical subliterate crap.

And if you think that is damning with faint praise, you are invited to peruse what passes for the "SF" lists of other houses these days.

You will note in addition that I have referred to the SF "genre" above, and that, alas, is where the good news segues into the bad news.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

All the praiseworthy novels published by Tor and discussed herein are more or less straightforward genre novels. Tor, the last bastion of idealistic science fiction publishing with consistent minimum standards of quality and a certain sense of responsibility to and guardianship of the elusive collective literary patrimony of science fiction, is strictly a genre publisher.

The significance of this takes some explaining.

The chances of any of the Tor novels praised herein being published outside an SF genre line would have been slim and none. Not because of lack of literary quality, since a quick cruise down the racks of any large bookstore reveals all too many best-sellers and wannabe best-sellers whose literary quality comes nowhere near matching that of the least of them, but because the nature of the material and the treatment thereof limits the potential audience.

Which is as good a pragmatic definition of "genre" as any.

Genre publishing is niche publishing. The books are packaged to sell to a known universe of potential readers whose size is limited but whose parameters the publisher knows well, or thinks it does. The print runs are therefore modest and predictable and so are the returns if things are working well, the writers are paid accordingly, and the publisher stays afloat.

Over time, each genre tends to develop its own time-tested formulas, tropes, and literary dialect, appealing to and reinforcing the loyalty of its regular and finite readership and making it impenetrable to outsiders.

Science fiction, or more properly "SF," is an extreme and special case of this, having over half a century and more developed not only tropes and literary dialects but an accretion disk of subcultures around it known as "science fiction fandom," with its conventions, fanzines, web sites, and so forth.

This had long been a crutch for SF genre publishers, gifted thereby with at least the illusion of a ready-made core audience and a means of publicizing its books and authors thereto for next to nothing.

Modest expectations, modest locked-in sales, modest expenses, modest dependable profits, assuming a modest degree of business competence.

The downside, of course, was the penurious existence of the writers, and the ghettoization of the literature. The less obvious upside was that within these narrow economic limits and within the constraints of what was considered "morally fit to print" at any given time, writers were more or less left alone to write what they would, and editors were free to buy and edit out of literary commitment and passion, since they were never really making significant economic decisions.

A core audience therefore evolved which could read the special language, parse the tropes, and comprehend the material without hand-holding explanations, and therefore a genre science fiction of genuine intellectual and spiritual interest but written largely for the cognoscenti able to understand it or at least willing to try.

Tor is a kind of throwback to those threadbare but innocently idealistic days. Tor specializes in publishing genre SF for the "genre SF readership."

Of the Tor novels considered in this essay, only the Goldstein and the Miéville could be read with comprehension and pleasure by a virgin reader newly come to the "SF genre," and even they are borderline cases.

Tor seldom if ever has published

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

something like *Cryptonomicon,* and certainly not with the major push necessary to essay the launch of same as a best-seller, which certainly goes a long way to explaining why Avon realized it had better not try to do it under an SF imprint either.

This has nothing to do with literary quality and everything to do with audience demographics, or at least perceived audience demographics.

And alas, seriously intended genre SF—meaning SF of literary quality, intellectual sophistication, serious thematic content, but written in a manner that renders it largely inaccessible to a general audience—to the extent that it is being written and published at all, has a smaller and smaller potential audience.

Just imagine the readership of the *Star Wars* novelizations, or *Star Trek* novelizations, or "David Brin's Out of Time" trying to read *Down There In Darkness* or *Dark Cities Underground* or even *The Cassini Division.* Just image the ennui of the sort of readers who enjoy the latter trapped on a desert island with nothing to read but the former.

The sad truth is that the core audience for seriously intended genre SF has never been large, a fact masked over the past couple of decades by the commercial success of the sci-fi media and pseudo-media schlock on the one hand, and the hothouse atmosphere of the conventions and fanzines of the SF fandom subculture on the other, which gulled lazy and just plain cheap publishers into skewing their marketing in that direction and lazy and parochial writers into writing for it instead of trying to reach out to the wider world.

By the time writers did start to try toward the end of the 1960s, they found their work trapped by the genre marketing parameters anyway. And somewhat later, when publishers succeeded in breaking through the commercial ceiling thereof, it wasn't with science fiction that reached out and up to a general audience of sophisticated adults, but that reached out and down to a largely juvenile audience weaned on *Star Trek* and *Star Wars.*

And now the chickens have come home to roost.

The larger audience for real science fiction that the kids reading all that media schlock were supposed to grow up to become never happened. The association of science fiction with such "sci-fi" and all that it implies to the general culture just as writers had evolved capable of bringing speculative fiction to a sophisticated general readership prevented any such work from "breaking out" unless it was entirely dissociated from "SF" like *Cryptonomicon,* written by a writer who had never been typed like Michael Crichton, or the beneficiary of sui generis media hype like *Neuromancer* or the post-mortem Philip K. Dick phenomenon—preferably all three.

Leaving a genre SF publisher like Tor or anyone else emulating its literary philosophy and business strategy to service a dwindling and aging hard-core readership for the hard-core stuff, and leaving the writers thereof more or less where such writers were at the beginning of the 1960s, knowing that no matter how good the books they write may be, they are foredoomed to low print runs, modest advances, small audiences, and little hope of anything better unless, like Neal Stephenson, they can escape from the genre and the publishing parameters of genre publishing.

Are things really as bad as they were at the dawn of the 1960s?

Well, no. They are both better and worse.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

In economic terms, they are better, because "science fiction writers" now have an economic survival strategy that they didn't have then, and they are following it wholesale, namely cranking out *Star Trek, Star Wars, X-Files,* or Out of Time novels and the like, and doing it at high speed.

It's possible to produce two hundred thousand words and more of this simplistic stuff a year if you're a good typist, since the settings, characters, and sometimes even story lines are handed to you. In the cases of the media novelizations, the audience demographics are so much better that you make more money on such a book than you would with a serious piece of your own work taking much more effort and much longer to write, even given that the plantation overseers are copping the lion's share of the royalties.

And that, of course, is the worse of it in literary terms, too, for this career strategy did not exist in the pre-*Star Trek* and pre-*Star Wars* era. SF writers being only human and needing to eat and pay the rent, more and more of them are being driven in this direction by the iron laws of economic determinism.

Indeed the Science Fiction and Fantasy Writers of America already has members who have never even written a free-standing novel, a trend that is only likely to continue and to accelerate.

So what can a poor boy do?

Well, you could always join a rock and roll band.

Or write movies.

Or do journalism.

Which is some of what I've been doing to pay the rent of late, and which taken together, or, in the case of movies, separately, has certainly been contributing more to my economic survival than writing science fiction novels.

The last two such novels I wrote were *He Walked Among Us* and *Greenhouse Summer.*

He Walked Among Us was conceived as a work of speculative fiction accessible to a general audience, and it was two years in the writing. I've been unable to place it outside genre publishing because I've been told it is science fiction, and unable to place it within genre publishing because I've been told it isn't SF.

While trying to place *He Walked Among Us,* I contracted to write *Greenhouse Summer* for Tor, who had also rejected *He Walked Among Us,* but were willing to publish a "regular" SF novel by me. It took about a year to write, during which I survived by moonlighting scripts, each of which paid me about twice as much for half the work. I do not expect it to be a best-seller. To say the least.

Why did I do it?

Why do I bring my own career trajectory into this discussion?

Because both questions have essentially the same answer. It made no economic sense. It was not remotely cost-effective timewise. I see no hope of large future financial reward. I did it out of love of science fiction alone. Fool that I may be, I found that I couldn't abandon it, even though in a sense I felt that it had abandoned me, and writers like me.

And that's why I bring first person into the equation. Because the days when it made any economic sense to spend a year or so writing a serious science fiction novel to be published in a genre line are over.

These days, such things are going to be written by fools for love, or not at all. O

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

SF CONVENTIONAL CALENDAR

March is one of the busiest months in the year for SF and fantasy events. Plan now for social weekends with your favorite SF authors, editors, artists, and fellow fans. For an explanation of con(vention)s, a sample of SF folksongs, and info on fanzines and clubs, and how to get a later, longer list of cons, send me an SASE (self-addressed, stamped #10 [business] envelope) at 10 Hill #22-L, Newark NJ 07102. The hot line is (973) 242-5999. If a machine answers (with a list of the week's cons), leave a message and I'll call back on my nickel. When writing cons, send an SASE. For free listings, tell me of your con 6 months out. Look for me at cons behind the Filthy Pierre badge, playing a musical keyboard. - Erwin S. Strauss

FEBRUARY 2000

25-27—**ConFluence.** For info, write: **Box 3681, Pittsburgh PA 15230.** Or phone: **(412) 344-0456** (10 am to 10 pm, not collect). (E-mail) parsec-home@netcom.com. Con will be held in: Mars PA (if city omitted, same as in address) at the Sheraton Inn North. Guests will include: James Morrow. The Pittsburgh area's traditional convivial convention.

25-27—**Fantasm.** (E-mail) **info@fantasm.org.** (Web) **fantasm.org/home/.** Marriott, Greenville SC. Low-key party con.

25-27—**AstronomiCon.** (E-mail) **ralston@aol.com.** Radisson Inn Airport, Rochester NY. Back after a few years' hiatus.

25-27—**Potlatch.** (E-mail) **ianh@scn.org.** University Plaza Hotel, Seattle WA. Written-SF focus. Usually many writers.

MARCH 2000

3-5—**Corflu.** Same contact and venue as Potlatch—so just stay over. Gathering of traditional-fanzine fandom.

3-5—**ConSonance.** (E-mail) **rhiannon@arilinn.com.** San Francisco. S. MacDonald, Davis, Klover. SF/fantasy folksinging.

10-12—**Animazement, Box 1383, Cary NC 27512. (919) 872-2323.** (E-mail) **slk1701@aol.com.** Hilton No., Raleigh NC. Anime.

10-12—**Vulkon, Box 821673, South Florida FL 33082. (954) 441-8735.** Baltimore MD. Commercial Star Trek event.

11-12—**MeCon, 24 Malston Ct., Upper Malone Rd., Belfast BT9 6HB, UK.** Senior Common Room, College Gardens.

11-12—**Trek Celebration, 11916 W. 109th #125, Overland Pk. KS 66210. (913) 327-8735.** Kansas City MO. Commercial con.

17-19—**RevelCon, Box 980744, Houston TX 77098. (713) 790-0707.** Media fanzines. By advance registration only.

17-19—**LepraCon, 2527 W. Kennewick Ave. #353, Kennewick WA 99336.** (E-mail) **thebadger1@juno.com.** Wenatchee WA.

17-19—**StellarCon, Box 4, EUC, UNCG, Greensboro NC 27412. (336) 334-3159.** Holiday Inn Market Sq. Stackpole, Zahn.

17-19—**The Gathering, Box 123, Aurora CO 80040.** (E-mail) **thegathering@uswest.net.** Renaissance, Denver CO. Horror.

17-19—**Left Coast Crime, Box 1230, Sonoita AZ 85637. (800) 659-8808.** Holiday Inn City Center, Tucson AZ. Mysteries.

17-19—**Starfury, 148a Queensway, London W2 6LY, UK.** (E-mail) **seanharry@aol.com.** Heathrow Park. Claudia Christian.

22-28—**IAFA, Florida Atlantic U., HU-50 B-9, NW 20th, Boca Raton FL 33431.** Hilton, Ft. Lauderdale FL. Academic meet.

23-26—**AggieCon, MSC Box J-1, College Stn TX 77844. (409) 845-1515.** (E-mail) **aggiecon@msc.tamu.edu.** Texas A&M U.

23-25—**Life, the Universe, and Everything, 3163 JKHB, BYU, Provo UT 84602.** (E-mail) **ltue@earthlink.net.** BYU campus.

24-26—**LunaCon, Box 3566, New York NY 10008.** (E-mail) **lunacon@lunacon.org.** Hilton, Rye Brook NY. Geo. A. Effinger.

24-26—**MidSouthCon, Box 11446, Memphis TN 38111. (901) 274-7355.** Sheraton Four Points. Fred & Joan Saberhagen.

24-26—**MillenniCon, 143 Schloss Lane, Dayton OH 45418. (513) 933-0452.** (Web) **millennicon.org.** Kings Island OH. Willis.

24-26—**TechniCon, Box 256, Blacksburg VA 24063.** (E-mail) **info@technicon.org.** Best Western Red Lion. Sherard, Ney.

24-26—**WillyCon, Conn Library, WSC, Wayne NE 68787.** (E-mail) **scifict@wscgate.wsc.edu.** Wayne State College.

AUGUST 2000

31-Sep. 4—**ChiCon 2000, Box 642057, Chicago IL 60664.** Bova, Eggleton, Baen, Turtledove, Passovoy. WorldCon. $150.

AUGUST 2001

30-Sep. 3—**Millennium PhilCon, Box 310, Huntingdon Valley PA 19006.** Philadelphia PA. WorldCon. $135 membership.

AUGUST 2002

29-Sep. 2—**ConJose, Box 61363, Sunnyvale CA 94088.** San Jose CA. WorldCon. $100 for full attending membership.

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

CLASSIFIED MARKETPLACE

Advertise in the World's leading science fiction magazines with our Asimov's/Analog combined classified section. Ad Rates per issue: $2.95 per word (10 word minimum), $125 per column inch (2.25 inch maximum). SPECIAL INTRODUCTORY OFFER: Buy two issues and receive a third issue FREE. Send orders to: Dell Magazines, Classified Department, P.O. Box 1510, Clearwater, FL 33757-1510. Direct inquires to: (800) 237-9851; Fax (727) 445-9380.

BOOKS/PUBLICATIONS

BUYING SCIENCE FICTION magazines, book collections. Will travel for large accumulations. Bowman, Box 167, Carmel, IN 46082.

VAYEK'S MOMENT. Cari-The-Professor's-Daughter leaned in and embraced the Salurk. www.Vayek.com

THE X-FILES: SOMNILOQUY. A stream of subconsciousness novel by Cassandra A Rollins. $16. Ravenflight Publications, PO Box 463, New London, CT 06320. Where the unusual is mainstream.

MISCELLANEOUS

BEYOND THESE CHARTED REALMS. 30 North 19th, Lafayette, Indiana 47904.

MISCELLANEOUS

PLASTIC MODELS: Space, Sci-Fi, TV, movies, etc. Free catalog, also buying/trading. Green's, Dept. DL, Box 55787, Riverside, CA 92517. (909) 684-5300; (800) 807-4759; FAX (909) 684-8819; dl@greenmodels.com; http://www.greenmodels.com

ARE YOU PERSONALLY going to space? www.tucson2000.org

UNUSUAL ITEMS

www.sci-fiworlds.com Sci-Fi Movie Theater for the Web

ROQUE™ BATTERY POWERED PAPERWEIGHT. If it starts to hover replace the battery. Instructions included. $15.00 incl. S&H. www.webspawner.com/users/leroque or 1-800-382-8727

FREE AD OFFER

IN OUR SCIENCE FICTION MAGAZINE COMBO

Place an ad in our next two issues and receive a third issue FREE!

Call today:

(800) 237-9851 • FAX (727) 445-9380

CLASSIFIED ORDER FORM

_____words at $ ____ per word = $ ____x_____weeks = $ _____

Card # _____ Exp. date _____

Signature _____ Phone # _____

Name _____

Address _____

City _____ State _____ Zip _____

DELL MAGAZINES

Classified Department, P.O. Box 1510, Clearwater, FL 33757-1510

E-Mail: scifiction@rja-ads.com

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

NEXT ISSUE

MAY COVER STORY

New British "hard science" writer **Alastair Reynolds** returns with our flamboyant, pyrotechnic, and wildly inventive May cover story, taking us thousands of light-years into the depths of space and thousands of years into the future to take part in a desperate hunt for a cosmic weapon that can destroy whole star-systems, and which, in the midst of a war that we're inexorably losing, may be the only chance of survival for life in our Galaxy (if it doesn't itself destroy it!) . . . that ancient, awesome, and terrible weapon known as "Merlin's Gun." This is a suspenseful and fast-moving adventure of almost-unimaginable scale and scope, a jolt of quintessential Sense Of Wonder stuff. Don't miss it!

TOP-FLIGHT WRITERS

Susan Palwick, critically acclaimed author of the novel *Flying in Place*, returns after too long an absence (thirteen years!) with a moving and bittersweet look at a young boy who's forced to grow up fast under difficult circumstances in a troubled near-future world, and who must face some choices that are hard at any age, in the process of "Going After Bobo"; multiple Hugo and Nebula-winner **Mike Resnick** spins a wild, wooly, and fanciful tale that serves as a sly introduction to the strangest of our solar system's inhabitants, "The Elephants On Neptune"; World Fantasy Award-winner **Jane Yolen**, who has been called "the Hans Christian Andersen of the twentieth century," joins forces with **Robert J. Harris** (making his *Asimov's* debut) to take us to the very bottom of the world, the most frozen and desolate landscape on Earth, to do battle with forces icy enough to make the surroundings look tropical by comparison, in the shiver-inducing "Requiem Antarctica"; veteran author **Tom Purdom** returns with the story of some music-lovers who are willing to go to any length, and take any risk (even the possible dissolution of The World As We Know It), to find some good music, in a fast-paced and exciting adventure that lets us listen-in on "The Noise of their Joye"; **Robert Reed**, one of our most popular and prolific authors, gives us an ingenious parallax view of two very different lives, as he scrutinizes "Two Sams"; and **John Alfred Taylor** returns with a grim reminder that you have to be ready to seize any opportunity that presents itself in this life, even after you're dead (perhaps particularly then!), in the unsettling "Provide, Provide."

EXCITING FEATURES

Robert Silverberg's "Reflections" column gives us an exclusive look at "The View Through Slow Glass"; and **Paul Di Filippo** brings us "On Books"; plus an array of cartoons, poems, letters, and other features. Look for our May issue on sale on your newsstand on April 4, 2000, or subscribe today (you can now also subscribe electronically, online, at our *Asimov's* Internet website, at *http://www.asimovs.com*), and be sure that you miss none of the great stuff we have coming up for you in the rest of the year!

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

TECHNOLOGY UPDATE

Stealth antenna hides under gutters but performs like big ugly antennas

The new Max Antenna by GE is the low-profile, high-gain way to get flawless reception of broadcast signals without expensive installation.

by Hope Chapman

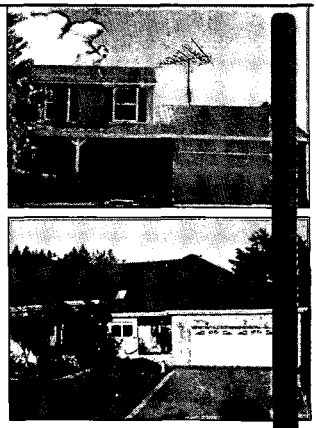
The Max Antenna by GE is the ultimate TV antenna system.

Electronic engineers agree—your television is only as good as the signal it receives. Unfortunately, antenna design has not kept pace with improvements in television quality and the features available. Both cable and satellite television systems have spent a great deal to improve the quality of their transmission, but they can be extremely expensive, they aren't available in all areas and may not provide access to local TV stations. Luckily, there is a new antenna from GE that will provide breakthrough performance without making your family room look like something out of the fifties.

Clear alternative. The Max Antenna series from GE uses a revolutionary electromagnetic design to maximize installation flexibility and yield longer range reception of off-air VHF and UHF signals. Unlike a conventional dipole antenna, the Max Antenna can receive signals in both vertical and horizontal planes with minimum cross-polarization loss. This design allows for the first low-profile antenna solution that provides numerous installation options.

Superior components. The key to the superiority of this antenna is its ingenious use of the latest electromagnetic technology—providing high gain and full channel coverage as well as the greatest amount of mounting flexibility. First, the antennas were designed around a wide band element to achieve the greatest amount of gain in a relatively small space. Next, an amplifier and matching network was designed to enhance the reception of weak signals. This amplifier also adds very little distortion to the strong signals, giving it a balanced amount of gain. A filter on the amplifier board will allow for good matching between the antenna and amplifier. Special attention was paid to design an antenna-amplifier combination that would be completely compatible with the new digital transmission format. It has been designed for strong signal distortion rejection and a low amount of noise. It is omnidirectional and requires no adjustments, orienting or fine tuning during use. You simply install it, set it and forget it.

Risk-free reception. The Max Antenna comes with Comtrad's exclusive risk-free home trial. If you are not completely satisfied, return it within 90 days for a full "No Questions Asked" refund.



The best antenna you'll never see.

Would you rather have the "old-fashioned" unsightly antenna tower or get even better reception with one that you can mount horizontally or vertically.

Max Indoor/Outdoor Antenna $49.95 $7.95 S&H
20-mile range

Mid-range Max Antenna. . . . $69.95 $9.95 S&H
40-mile range

Super Max Antenna . . . . . $99.95 $11.95 S&H
60-mile range

Please mention promotional code 5733-17511

For fastest service, call toll-free 24 hours a day

800-992-2966

DISCOVER NOVUS VISA MasterCard American Express Cards

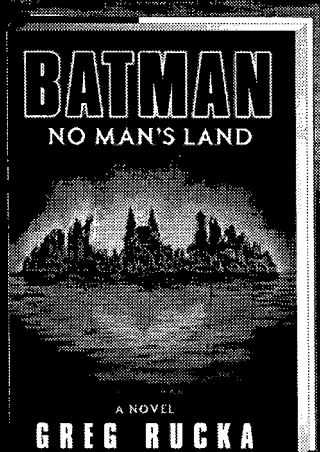
comtradindustries

2820 Waterford Lake Drive, Suite 102 Midlothian, VA 23112

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED

WELCOME TO THE NEW MILLENNIUM

Batman returns—brilliantly redefined and rediscovered—in this powerful epic saga from award-winning author Greg Rucka.



Leveled by a massive earthquake, Gotham City has been completely cut off from outside aid, transformed into a lawless battleground—a No Man's Land. In the midst of the chaos, dedicated Police Commissioner James Gordon and Batman must overcome their differences to reclaim the city.

Available wherever books are sold

™ & © 1999 DC Comics.

A POCKET BOOKS HARDCOVER

www.SimonSays.com
www.dccomics.com

LICENSED TO UNZ.ORG
ELECTRONIC REPRODUCTION PROHIBITED